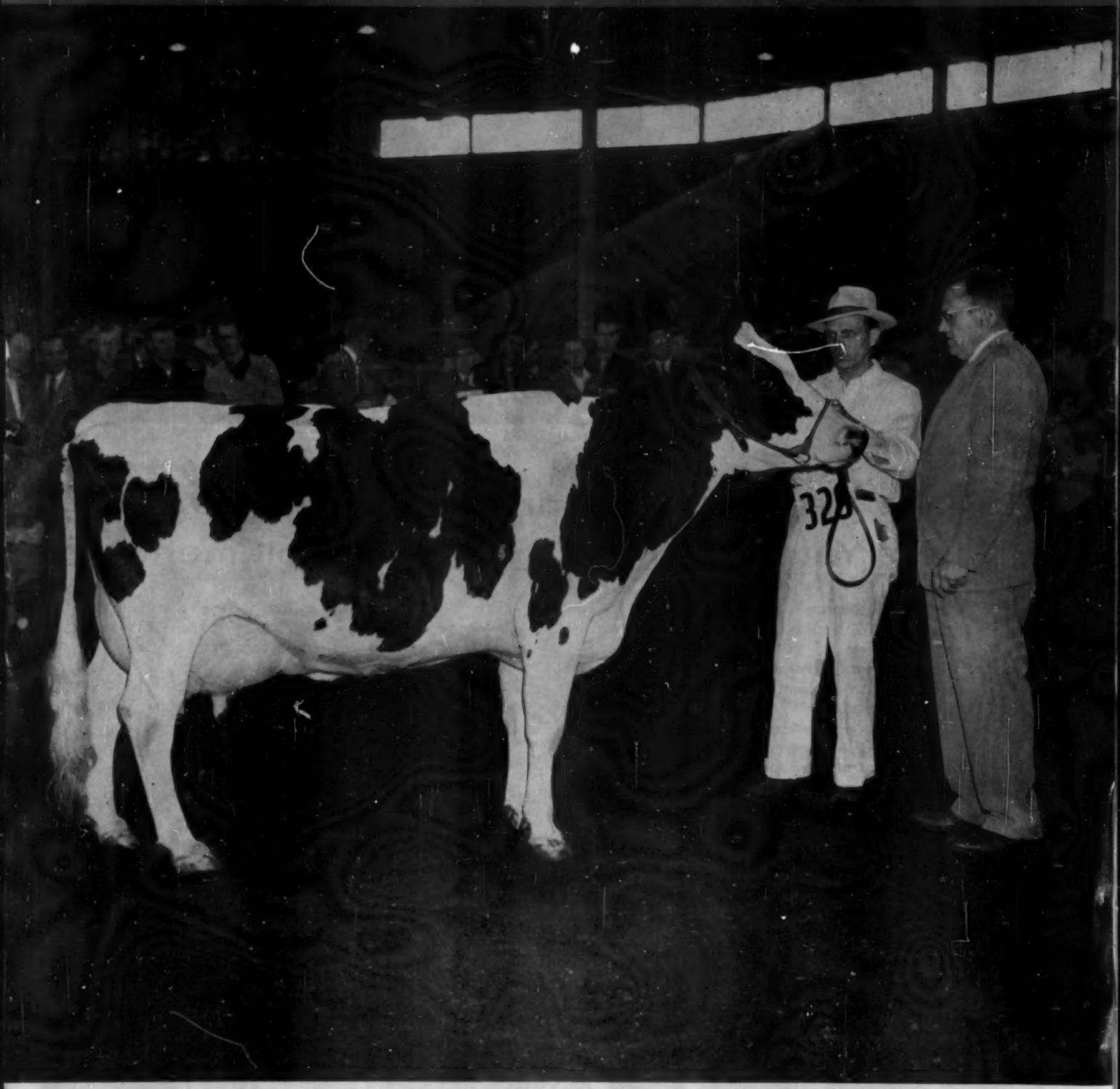
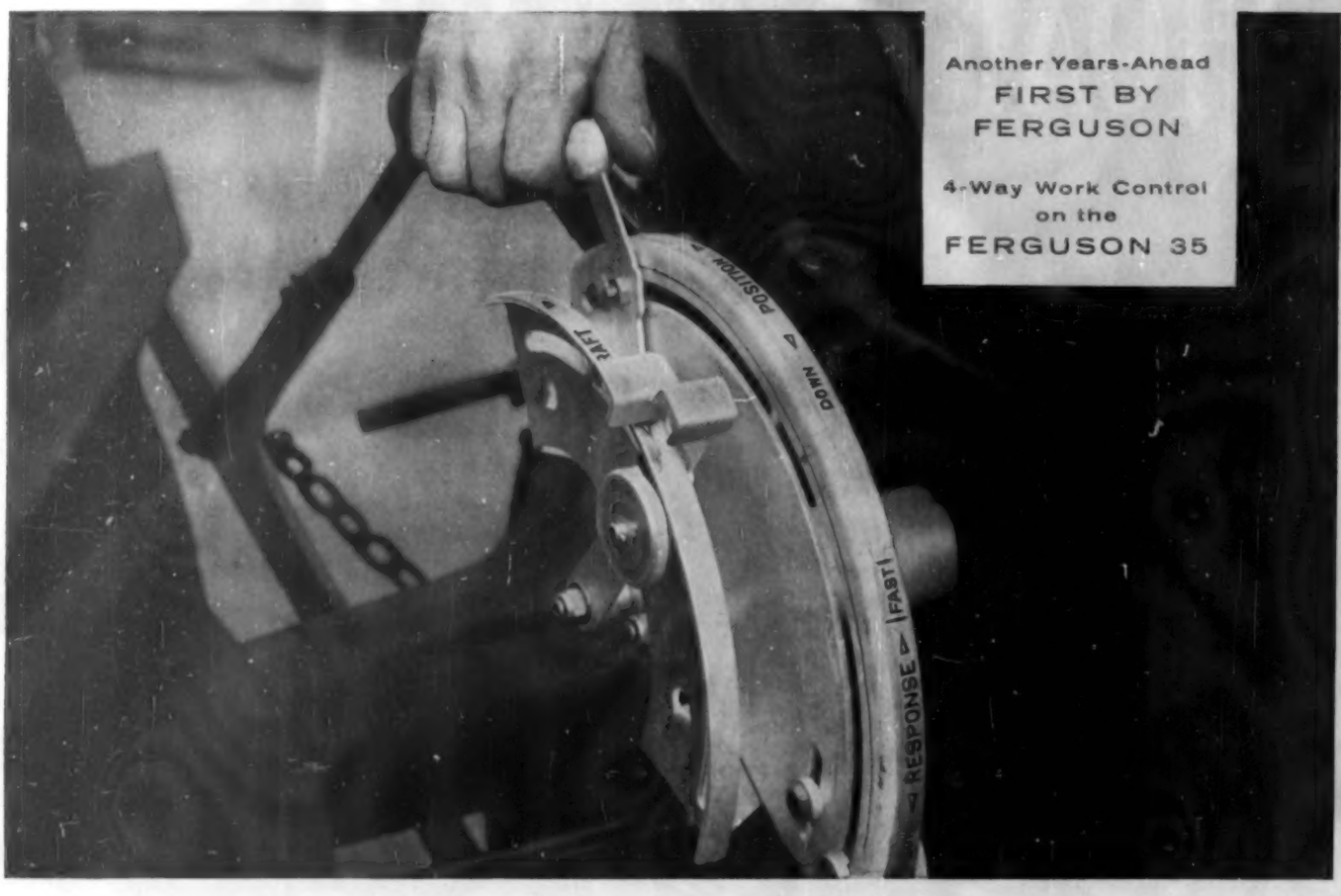
HOARD'S DAIRYMAN

JANUARY 10, 1956



26th Annual Judging Contest begins: Holstein Class on page 18

THE NATIONAL DAIRY FARM MAGAZINE



Another Years-Ahead
FIRST BY
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4-Way Work Control
on the
FERGUSON 35

How Ferguson Quadramatic Control Lets You Take Full Charge of Implements

Control of implements is sure and easy with a Ferguson "35" because of the time-tried and continually improved Ferguson System.

Right at your finger tips is new Quadramatic Control that will amaze you with its close command of implements. This Ferguson "first" lets you raise and lower implements, select draft and maintain working depth, adjust the hydraulic system's speed of response and hold implements at any position you choose—all with the same compact control quadrant.

And you'll find the other members of the Ferguson 4-Way Work Control team contributing their part to your mastery over every farm job: Variable-Drive PTO for versatile, synchronized power; "2-Stage" Clutching for one-pedal control of both transmission and PTO; and Dual-Range Transmission to insure peak efficiency in each speed range.

No longer need your tractor's limitations dictate how well you farm. Ask your Ferguson Dealer to show you how the Ferguson "35" lets you take *complete* charge!

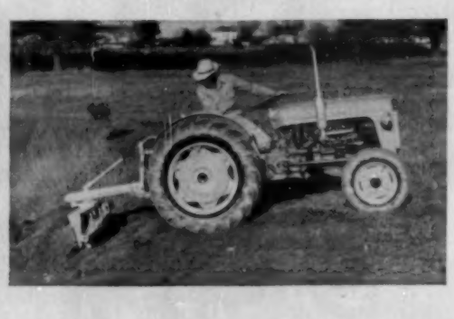
Ferguson

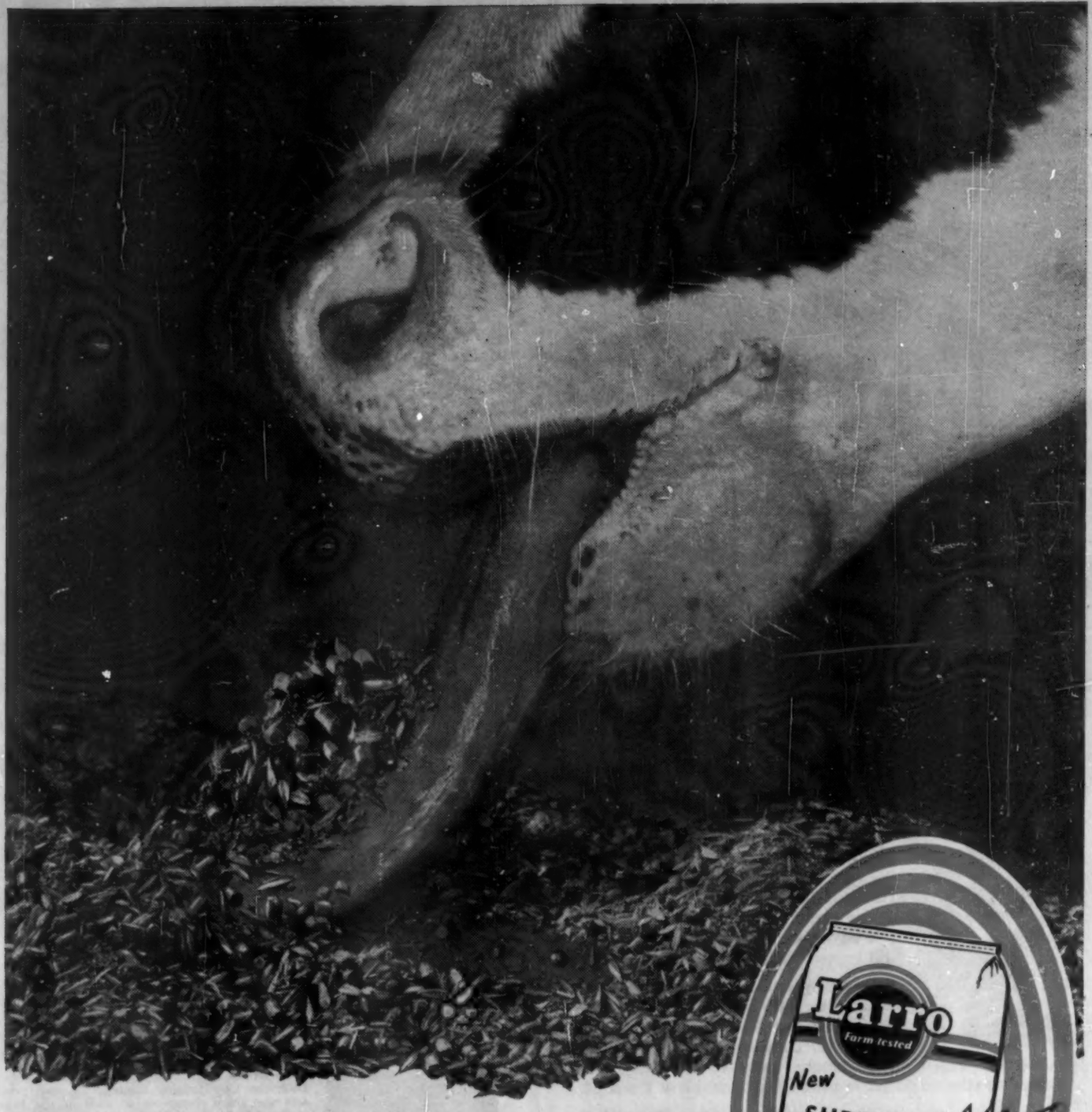
Racine, Wisconsin

FOR PLOWING, draft is maintained automatically, even with heavy overhanging implements.

FOR DISCING AND CULTIVATING, you can control penetration exactly, even in changing soils.

FOR UTILITY JOBS, you can raise, lower, hold, and operate implements while you're working.





Hazel had the answer on the tip of her tongue

HAZEL's an important cow at the Larro Research Farm. Given her choice of feeds in recent palatability tests, she unhesitatingly selected new tasty-texture SureMilk . . . *and downed 58 pounds on top of a full feed of roughage!*

Small wonder dairymen say their cows like Larro's new coarse, appetizing feed the best of anything yet.

The reason: Larro SureMilk is light, but not loaded with dusty, parching fines. These essential nutrients are pelleted . . . well mixed with the coarser ingredients. Then, just enough molasses is added to sweeten the mixture without covering up the natural flavor.

What's more, Larro SureMilk's unmatched milk-making power is proved by thousands of herd records. It supplies every nutrient that hard-working cows need to stay healthy and milk their best on even poor pasture or roughage. These nutrients include Larromin . . . General Mills' exclusive mineral blend that makes separate mineral feeding unnecessary. And SureMilk doesn't pack in a cow's stomach. Its slightly laxative quality helps promote good cow condition.

Your Larro SureFeed dealer invites you to try this modern dairy feed soon. Like Hazel, your own cows will be glad you did.

General Mills • Minneapolis 1, Minnesota

SM-1-5

SUREMILK CONCENTRATE

Larro SureMilk 32 is formulated by General Mills for dairymen who want to mix their own rations. It supplies all the milk-making nutrients needed with home-grown grain . . . and adds appetite appeal to the ration.

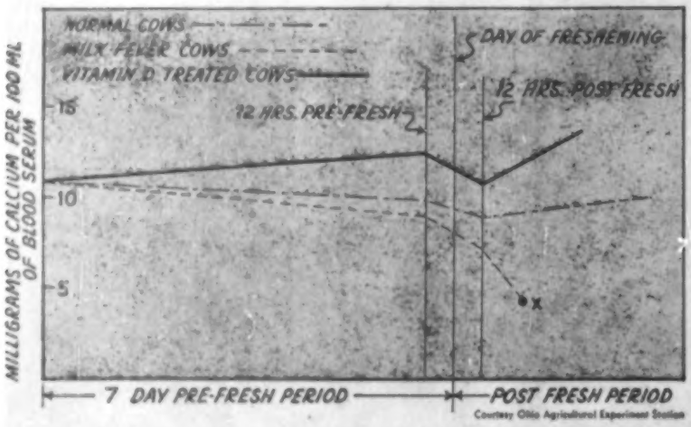
SURECALF STARTER

Gives calves all the benefits of Larro's new tasty-texture . . . plus super-nourishment for the kind of start they need to develop fast, breed early and become profitable milkers in your dairy herd far sooner.

Do you have the problem of MILK FEVER?

Here's GOOD NEWS!

AN INEXPENSIVE WAY of feeding for PREVENTION



This graph portrays changes in the blood serum calcium of normal, milk fever, and vitamin D-treated cows before and after calving. The heavy line represents cows fed 30 million units of vitamin D per day for 5 to 7 days before freshening. Note high level of blood serum calcium which protects against milk fever. The lower broken line represents low calcium levels found in milk fever cows. At point X milk fever cows lose consciousness.

Has milk fever proved to be a problem among certain cows in your herd? Then this advertisement by Standard Brands will be welcome news for you.

For many years scientists have been experimenting with heavy doses of Fleischmann's Irradiated Dry Yeast to prevent milk fever. These scientists were seeking to learn at what level and for what period of time heavy vitamin D intake would prove most effective and cost the least.

After fifteen years of experiments at the Ohio Agricultural Experiment Station, recommendations can now be made as to the proper level of vitamin D to feed for milk fever prevention. We can also tell you that feeding at this recommended level, each day, for 5 to 7 days before freshening, is comparatively inexpensive.

Remember, the feeding of heavy doses of FIDY is not for the treatment of milk fever — it is used as a *preventive* of milk fever. See your feed dealer or veterinarian.

If you have experienced milk fever losses and your feed dealer or veterinarian is not yet prepared to take care of your needs —write us. They and we can now help you, thanks to advances in dairy science. Address Desk HD-16, STANDARD BRANDS INCORPORATED, *Agricultural Department*, 595 Madison Avenue, New York 22, N.Y.

Fleischmann's F·I·D·Y IRRADIATED DRY YEAST RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

HOARD'S DAIRYMAN

The National Dairy Farm Magazine

Publishers W. D. Hoard & Sons Co. Fort Atkinson, Wis.

W. D. Hoard

Founded by W. D. Hoard, 1885 Fort Atkinson, Wis.

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W. D. KNOX Editor

Associate Editor, E. C. MEYER
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To set the theme of our 26th Annual Hoard's Dairyman Cow Judging Contest, we shall present the grand champions of each of the five National Dairy Breed Shows on the cover of the issue containing that particular class.

For the second consecutive year, the National Grand Champion Holstein female was Gray View B D Skyanne, bred and owned by Harvey A. Nelson and Sons, Union Grove, Wis. Shown by Gene Nelson, this picture was taken by our staff photographer just after Dr. George Trimberger, Cornell University, had selected her for his grand champion female at the National Holstein Show held in Waterloo, Iowa. "Skyanne" was All-American 2-and 3-year-old, and in her first lactation produced 602 pounds butterfat.

Keep her in mind when you judge the Holstein class on page 18.

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The receipt of Hoard's Dairyman is notification that money on subscription has been received. The label on paper will show date to which subscription is paid. Changes of address should reach us three weeks in advance. Include old address.

Unwholesome, immoral and questionable medical advertising is excluded. A sincere effort is made to carry advertising of only reliable people. We will always take it as a favor to be notified promptly whenever any advertiser's dealings with the subscribers are not in good faith or evidence a lack of business honor. Advertisers recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

Hoard's Dairyman is published on the 10th and 25th of each month. Advertising copy for the 10th of the month issue must be received before the 15th of the preceding month. For the 25th of the month issue, copy must be received by the 1st of that month.

Washington Dairygrams

LOOK FOR SECRETARY BENSON TO FIGHT WITH GLOVES OFF IN MONTHS AHEAD. INSIDERS REPORT HIS POLITE DEFENSE TO BE JUNKED FOR AGGRESSIVE FIGHT ON FARM PROGRAM. WILL RECOMMEND PROGRAM CHANGES, TOO.

COTTON GROWERS APPROVE MARKETING QUOTAS BY A 93 PER CENT VOTE FOR 1956. ACREAGE WILL BE DOWN ABOUT 4 PER CENT. SUPPORTS BETWEEN 75 AND 90 PER CENT. IF QUOTAS NOT APPROVED, SUPPORTS WOULD HAVE DROPPED TO 50 PER CENT.

BUTTER SALES UP IN OCTOBER AS HOUSEWIVES PURCHASED 4 PER CENT MORE BUTTER THAN IN OCTOBER 1954. MARGARINE SALES DOWN 1 PER CENT.

SOIL BANK APPROVED BY SECRETARY BENSON'S ADVISORY COMMISSION. DETAILS NOT SPELLED OUT BUT WILL EMPHASIZE PLANTING OF GRASSES AND TREES. NO WORD ON WHETHER GRASS CAN BE GRAZED FOR MILK AND MEAT PRODUCTION.

MORE CREDIT FOR FAMILY FARMS IS PROPOSED IN NEW ADMINISTRATION FARM PROGRAM.

WHEAT FOR HOME FARM USE TO BE EXEMPT FROM QUOTAS IF BENSON'S ADVISORY COMMISSION'S RECOMMENDATIONS ARE APPROVED BY CONGRESS.

RESEARCH TO GET BIG BOOST IN FINANCIAL AID NEXT YEAR AS U.S.D.A. MAKES EVEN STRONGER EFFORT TO DEVELOP NEW MARKETS FOR FARM PRODUCTS.

SURPLUS DAIRY STOCKS AS OF DECEMBER 7 INCLUDED 111 MILLION POUNDS BUTTER, 280 MILLION POUNDS CHEESE, AND 11 MILLION POUNDS POWDER.

★ ★ ★

In YOUR next issue!

WE LIKE TO MAKE FARM LOANS . . . Ten of the nation's top country bankers tell why farm loans are important to them, how much a dairy farmer can be in debt, and what they look for in a borrower. This is the seventh in our famous Round Table series.

KETOSIS . . . Here is what we know to date, written by our own Dr. E. A. Woelffer.

SHOULD WE ADD ANTIOXIDANTS? . . . The answer to this question may mean greater and stronger markets with better prices for dairy farmers.

THE AYRSHIRE CLASS . . . in our 26th Annual Hoard's Dairyman Cow Judging Contest.

AND many more . . .

Easy TO ORDER OR RENEW!

HOARD'S DAIRYMAN
Fort Atkinson, Wisconsin

☐ New
☐ Renewal

I enclose $_____. Please send me Hoard's Dairyman for _____ years.

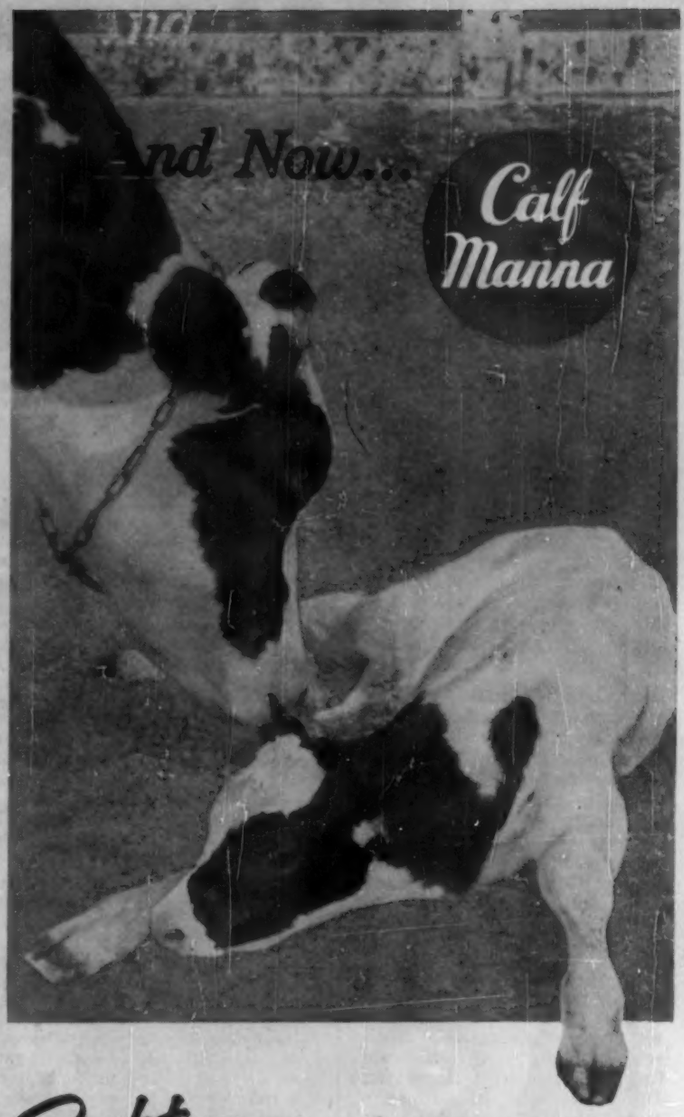
Name _____ R. F. D. _____

P. O. _____ State _____

SPECIALS

3 years $2.00 - 5 years $3.00 (Reg. price 1 year $1.00)

(CANADIAN: 1 Year—$2.00 — FOREIGN: 1 Year—$3.00)



Right From the First Day!

It will take 18 to 24 months of careful feeding and management to put this hour old calf into the milking string. That feeding and management starts now—*right* from the first day.

The sooner you get a calf on dry Calf Manna the better. Calf Manna practically eliminates scours and other digestive troubles. It saves 55% of the labor in feeding calves. Calf Manna saves up to 1/3 of feeding costs to 4 months (up to $9.00 per calf) compared to 10 other leading Calf Feed programs. Calf Manna encourages the development of a big rumen in the calf so the animal can make use of inexpensive roughages within a few weeks.

EASIEST CALF FEEDING PROGRAM

1. Start feeding Calf Manna right from the first day.
2. After one week on colostrom feed Albers Suckle until the calf eats 1 lb. of Calf Manna daily.

When it's results that count—count on Calf Manna Suckle.

ALBERS MILLING COMPANY

314 Fairfax Building, Kansas City 6, Missouri

Memo to Dairy Farmers

Protective Milk, developed by Doctors W. E. Petersen and Berry Campbell, University of Minnesota research scientists, may well prove to be one of the great scientific and medical discoveries of our time. As such it is news of interest to all dairymen and promises, in the future, to open up a new chapter of service for the dairy industry.

Behind the concept of this research, as described in recently published articles, lie days, months and years of painstaking research. Ten years, in fact, during which this team of scientists has proved the basic principle suggested by their initial theory. Much work remains to be done before **Protective Milk** reaches the market place.

The American Dairy Association is proud to be a part of the work of Doctors Petersen and Campbell. Such research efforts are a basic function of the American Dairy Association program. Many similar projects have been in progress for years.

This discovery by Doctors Petersen and Campbell, with its tremendous potential for bettering the lives and health of us all, is but one facet of the program financed by dairy farmers through the American Dairy Association. Quite naturally, the Association's efforts are centered around learning more about how dairy foods contribute to better human nutrition. Similar studies are at work improving the efficiency of advertising, merchandising and public relations for dairy foods.

The American Dairy Association is dairy farmer financed by a set-aside of 2c per cwt. on milk, or ½c per pound on butterfat. Dairy farmers certainly can point with pride to their total sales and research program which makes it possible to add so much to the welfare of our people while it also creates sound markets for dairy products.

Your Road to Sales

American Dairy Association

20 North Wacker Drive

Chicago 6, Illinois

Opinions, Brickbats, Bouquets

These columns are open to the readers of Hoard's Dairyman for the expression of their opinion on any subject, whether radical or conservative, destructive or constructive, wise or foolish, critical or commendatory. Hoard's Dairyman assumes no responsibility for opinions expressed.

Burning dollar bills

I see in your December 10 issue that A. P. of Ohio gets a second kick, this time from a fellow Ohio reader. The trouble with A. P. is that he is of the old sort of savers. With the new sort of savers, anything short of lighting cigarettes with dollar bills is saving and is better because it's newer.

Wisconsin. H. S.

Ban high-acid cream

I just read your editorial, "The 'No-Can-Do' Reply." I am also convinced that the job can be done. The solution to the dairy problem is relatively simple.

In my own mind, the problem can be solved by improved quality. Half of our butter is made from poor sour cream produced in unclean utensils without cooling. High-quality standards on gathered cream would eliminate some of these careless dairymen. Those who are willing to do a good job would stay in business. Our average quality of butter would be so improved that consumption could easily double.

We could influence the Pure Food and Drug to require all butter to be made from cream with 0.25 per cent acid or less. Certainly when cream goes above this acidity we have a myriad of fermentations. I don't know of any food product we let deteriorate to the extent we do gathered cream, and then attempt to make it into an acceptable food product. Such a ruling would be easy to enforce because a simple ash determination will reveal excessive use of neutralizer.

If the Pure Food and Drug will not make the necessary ruling, we should get national legislation on this point.

It seems to me that if we can solve the butterfat problem, we can divert some of the cheese milk to butter which will in turn solve that problem. That, of course, leaves us with the nonfat problem. This could easily be solved by a baker's subsidy that would not cost our government much and would give our consumer a much more nutritious bread.

We are messing around with a lot of ideas to solve the dairy farmer's problems. All are complicated and may or may not solve the problem. Fine flavor quality will solve the problem with no real hardship for anyone.

Wisconsin. N. E. FABRICIUS.

Self-sucking cows

In the December 10 issue, a Utah reader asked for advice on how to cure a cow of sucking herself. I have been in the dairy business for 35 years and have had quite a bit of experience with problems of this nature. We have a herd of 25 Guernseys.

Quite a few of our cows have developed the sucking habit. The best thing I have found to break them of the habit is to place a hog ring in the tongue. It is placed crossways about 1½ inches from the tip of the tongue.

I recommend this treatment when the cow is dry because it may cause a drop in production for awhile.

Having been a reader of Hoard's Dairyman for many years, I have grown to know that it is not an expense to subscribe, but a very profitable investment. We like your magazine very much.

Maryland. ARTHUR S. FROCK.

Our veterinary editor has suggested placing two hog rings on the underside of the tongue just in front of the medium membrane. The rings are spaced about 1½ inches apart. They should not be placed too deeply. Cupping of the tongue is prevented if the rings are properly placed.

Why add to surplus?

Have read Roy W. Bonde's letter "Skim milk at home." We are a family of five and use about 16 pounds of good, whole, fresh milk every day. Why pay the manufacturers a ridiculous price for something that is only fit for animal consumption and sell the precious food that our children need most. This only adds to the government surplus.

Arkansas. ERNEST GIGG.

A natural process

I wish to offer some comment on the letter in your columns titled ". . . For nincompoops." In my opinion, Mr. Ludwig Levy, of New York, is mistaken in his assumption that none of the products advertised in your magazine "sells according to the 'law of supply and demand'."

If a company finds it has a good product which should be in demand, but is not selling well, it can reduce the price. If the product is selling well, they may raise the price, if they wish, and see if the public will continue to buy it to suit them. Therefore, the "law of supply and demand" does apply to most companies, perhaps all.

In most cases the farmer does not find himself in the position of the companies, in my opinion. I do not claim that is the only reason for our present financial situation, which we tend to be unhappy about.

"Aren't you overdoing it a bit?"

The politicians have, in my opinion, made laws with only a short term outlook, which were not in the farmer's best interest in the long run. I think part of the reason for that may be that the farmers could be of enough help to a party to swing the election in that party's favor, even though we are a definite minority group in our country's population.

Since we probably are about all basicly selfish, the farmers apparently have not tried as hard as they should have to get our farm legislation, etc., planned for the long run, as well as to help problems existing at the time the plans were made. I think the flexible farm supports would have been a good plan to have put into operation a few years ago when the so-called overproduction began to be apparent.

I do not think that one needs to be a "college-trained, double-talking nincompoop" to understand all that, in view of our present system of news dissemination, though Mr. Levy so indicated in his letter in your November 25, 1955 issue.

Science has provided the farmer, as well as other people, with great labor-saving systems and devices which enable one person to do more than with the old ways. This has led to the concentration of business in fewer peoples' management and ownership. I think this is a natural process that goes with the progress we tend to be proud of here, and probably we are justified in being proud of it.

As a result of that progress, the smaller farms do not make as much profit as formerly because a larger volume of business, that is not readily absorbed by the market, means lower unit prices. That does not hurt the larger business so much as the smaller ones. I think that is a more or less natural process that goes with our increased use of larger machinery and better fertilization methods, etc. THOMAS SWAIN WADMAN.

Indiana.

"Are cockleburs poisonous?"

In the December 10, 1955 issue of your magazine, an article entitled "Are cockleburs poisonous" states that prussic acid is the toxic principle involved in cocklebur poisoning. This statement is in error, as the toxic principle is a glucoside, xanthostrumarin.

The type of toxic principle involved is important because there is a specific and effective treatment for plant poisonings that involves prussic acid, but which is ineffective as an antidote for the toxic principle of cocklebur poisoning. The therapeutic treatment of cocklebur poisoning is mostly symptomatic and unsuccessful.

Wisconsin. E. P. POPE, D.V.M.

Back to supply and demand

Let's get back to our good old American way of selling. Let supply and demand take care of surplus, not the taxpayers' money going into surplus to be given away. This latter doesn't make sense to me and never did.

Why not see if we can't get rid of the laws that say we have to pay taxes to buy back the surplus so we can give it away? After all, government is the people.

Idaho. MRS. R. C. A.

BUY THE DAIRY FEEDS THAT boost the value of roughage!

You unlock extra feed values with concentrates containing PROCADIAN* Urea. It speeds up rumen activity that tears apart fiber and cellulose in roughage and grain. The more nutrients your cattle can get out of low-cost roughage and other home-grown feed, the lower your costs for producing milk.

Many natural feeds, such as oats and alfalfa, have always contained some Urea. When you use balanced feeds containing PROCADIAN Urea, you provide plenty of this quick nitrogen source of protein that helps your cattle digest more of the feed they eat.

Feed the rumen bacteria Urea nitrogen in a balanced supplement as a quickly-available source of protein, along with quickly-fermentable sugars and starches, plus minerals. The rumen bacteria grow more rapidly and digest more of the fiber. You get greater feed efficiency and bigger milk profits.

See your feed man now for concentrates or balanced feeds containing PROCADIAN Urea. Look for Urea on the tag. And write to the nearest address below for the free booklet that describes how *urea* improves rumen nutrition.

*Trade-mark

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FEED MIXTURE
The QUICK Source of PROTEIN in Mixed Feeds

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Box 188, Columbia, Mo. • 2999 W. 6th St., Los Angeles 5, Cal. • 1095 Market St., San Francisco 3, Cal.

Send me full information on PROCADIAN Urea in dairy feeds.

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CITY_____ STATE_____

Fill in this COUPON for the FREE BOOKLET!

The new Bel Air Sport Sedan (one of two new 4-door hardtops) shown on the Pikes Peak road where Chevrolet broke the record.

Nothing without wings climbs like a '56 Chevrolet!

This new Chevrolet handles hills like they aren't even there! Aim it up a steep grade—and you'll see why it's the Pikes Peak record breaker!

Ever level off a mountain with your foot? Nothing to it. Just point this new '56 Chevy uphill and ease down on the gas.

In the merest fraction of a second you sense that big bore V8 lengthening out its stride. And up you go with a silken rush of power that makes a mountain seem as flat as a roadmap!

For nothing without wings climbs like a '56 Chevrolet! This is the car, you know, that broke the Pikes Peak record. The car that *proved* its fired-up performance, cat-sure cornering ability and nailed-down stability on the rugged Pikes Peak road. And *all* these qualities mean more driving safety and fun for you whether the road's smooth or rough, flat or hilly.

You'll see that when you *drive* the new Chevrolet. You've 19 frisky new models to choose from, with new higher horsepower—ranging up to a top of 205! Borrow the key to one at your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

THE HOT ONE'S EVEN HOTTER

HOARD'S DAIRYMAN
Founded in 1885

Rent or buy?

What's best for the young man with limited capital?

by Wayne Ritchie and W. C. Senior
Deane Agricultural Service, Inc.

RENTING is best in most cases. That is the consensus of Deane farm managers and special correspondents. These men, located throughout the country, further conclude that if capital is limited, it is almost impossible to begin dairying in any other way.

A Michigan extension worker brings up a point of real practical importance, "Renting is preferable to buying but this assumes, of course, that the landlord is willing to make the necessary investments for successful dairying."

These comments, from an Ohio farm management service, pretty well sum up the general sentiment: "It is our belief that any young man with health, ambition, and integrity has as good a chance to get into the dairy business on his own today as he ever did. First, he must be a farm hand, then dairy foreman, and from there to share-tenant in a dairy enterprise. The man with proper characteristics will always get there."

The question is, "How does he get started in this program?" Here are some guides that our farm managers consider important:

First of all, consider some of the basic factors. A man must have a real interest in dairying, and he should have grown up on a dairy farm. One of the hardest things to do is to make a livestock man out of a grain man. Their outlooks are entirely different.

Must accept new ideas . . .

Next, the man must be willing to accept new ideas and different ways of doing things. Dairying is a changing business and it appears likely that greater changes are coming in future years.

Our experience in starting young farmers indicates that the prospective farmer should have $5,000 in savings. Or he should have that amount available from either his or his wife's family, money that doesn't have to be paid back with interest on any certain schedule.

In most cases, this amount plus what he can borrow from the usual credit sources will be enough to get him on his feet.

A young man renting his first farm cannot be choosy. But he should try to rent as good a farm as he can. Many times a poor farm is rented quickly with the idea of moving in a year or so. That may be necessary but be sure it is the "best" poor farm available.

The term "good" farm is ambiguous but here are some guides to use in judging:

The soil should be capable of growing 75 bushels of corn per acre or its equivalent in other crops. That doesn't necessarily mean right away; but, with reasonable fertilizer applications, crop yields can be brought up to this level within two or three years.

The land should be reasonably rock and stone free. Machinery expense is increased sharply if land is stony.

Cropland should be reasonably level; at least, level enough to allow use of three-bottom and its equivalent machinery.

While weeds are not the problem they once were, look for a farm that is not too foul. Perennial weeds and grasses not sensitive to 2,4-D are particular problems.

A dairy farm should be located on an all-weather road. There is little future for the dairyman who must plan on the basis of being isolated during wet weather.

Look for a modern house and a nonfailing water supply piped to all the buildings.

It is doubtful that many beginning farmers can find a farm which meets all these tests, but they will furnish a guide to a prospective renter.

A young man with limited capital must rent "improvements." Therefore, he will very probably rent on the basis of a 50-50 livestock share lease. A cash rent lease would be to his advantage if he had adequate capital to guarantee payment of the rent and to furnish needed improvements and equipment.

In some areas grain share leases would be fine. However, the tenant would still have to furnish much of the equipment and facilities for dairying.

Finally, in dairy areas, there is usually no choice. It is a 50-50 livestock share lease or nothing.

What size?

We firmly believe that 160 acres of tillable land are necessary to furnish an adequate family living and a chance to save for future farm ownership. A 200-acre farm would be even better.

Basic equipment . . .

Equipment purchase comes first. Operating 160 to 200 tillable acres will require the following items: One three-bottom tractor, plow, disk and harrow, mower, side-delivery rake, corn cultivator (if corn is grown), manure spreader, two wagons, grass seeder, and milking equipment.

When he first starts, a farmer could do without a corn planter and grain drill provided he can get a neighbor or relative to loan or rent him this equipment. A combine, corn picker, baler, or forage harvester can come later. However, if considerable corn is grown, a corn picker should have high priority on the additional equipment list.

The amount of dairy equipment needed will depend on the farm. The beginner should try to rent a farm on which the owner furnishes the cooler or the bulk tank.

Fencing is a rather common item but it is more important than you might think. The young farmer should look the fences over carefully. Usually he is short on labor and already trying to do more than he should.

To start farming, you should . . .

- have $5,000 in savings (or available from the family)
- go on a good farm . . . the best available
- rent at least 160 acres of plow land . . . 200 is better
- take it easy on equipment . . . start with 3-bottom tractor, plow, disk and harrow, mower, side-delivery rake, corn cultivator, manure spreader, 2 wagons, grass seeder, and milking equipment
- look for good fences
- start the money rolling in . . . with at least 20 good cows — and work up to 35 or 40
- have at least 10 sows, if crops are suitable
- personally, have a real interest in dairying and be willing to accept new ideas

In the way of livestock, 20 good cows are needed within a year after beginning farming. Do not put off buying them. Credit men tell us that young farmers usually buy too much machinery and put off acquiring productive livestock.

A cow that does not produce 9,000 to 10,000 pounds of milk does not have a place on today's dairy farm. So, the emphasis is on quality. Do not try to save money by buying cheap cows.

On an average 150-to 200-acre farm, the young farmer should then work to get his cow numbers up to 30 productive cows as fast as he can.

Along with the dairy enterprise, we think a hog operation is good. Some people will argue this point but the main objective should be to market through dairy cows all the roughage produced, and most of the grain through hogs.

Ten sows recommended . . .

Of course, this does not apply if corn is not produced on the farm. If a hog operation is practical, at least 10 sows should be kept. There is not much use having hogs if you do not have this minimum number. Generally, profits will be highest if a twice-a-year farrowing program is followed.

The next order of business is to start filling in the machinery line. Particular emphasis should be placed on forage-harvesting equipment. The key feature to low-cost milk production is good roughage. To keep quality high and labor requirements down requires plenty of equipment.

Work up to 35-40 cows . . .

Then, after equipment needs are met, the herd should again be increased, up to 35-40 producing cows or to the limit of the feed-producing capacity of the farm. This is also the time to cull severely to get production per cow even higher.

Finally, when the farmer has all of his equipment and household goods paid for, a herd of high-producing cows, and one-half the amount of money in the bank that he needs to buy a farm, he is ready to buy. He can get by on less but, if he wants to make the change from renting to ownership with no sacrifice in family living level, he will need this much money.

THE END

Farm Flashes . . . .

Seasonal reminders and research notes for the dairyman

GRANULATED INSECTICIDES— CORN BORERS

Entomologists believe farmers may do a better job of controlling European corn borers next summer, using DDT in granular form. Scientists from throughout the north central states and the United States Department of Agriculture have just released recommendations on this latest insecticide development.

Experiments carried on during the past three years have shown that granular insecticides have in general given as good or better corn borer control than spraying applications. So far, DDT has been the only insecticide that has been sufficiently tested in granular form to be recommended.

The insecticide can be applied about the time you would normally spray — that is, when about 75 out of 100 plants show signs of "shot hole" feeding.

An application of about 15 to 20 pounds of 5 per cent granular DDT to the acre is recommended. The DDT looks much like granulated sugar. It is sifted over the corn rows, and rolls down into the whorls of growing leaves.

Since it tends to work its way deeper into the plant whorl leaves than the spray, the time of application might not be as critical as when using the spray. The toxicant in granular form would remain nearer the center of borer feeding for a longer time.

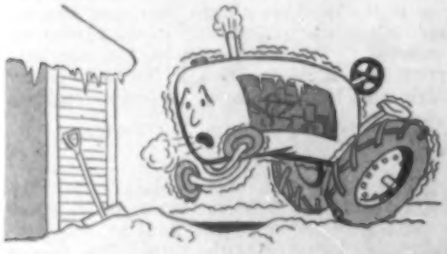
The new granular insecticide is easy to handle; it comes in ready to use form. There is no mixing or water hauling. Tests have shown that a 4-row machine can treat as many as 100 acres of corn in a day.

Practically no DDT granules reach the kernels inside the husks. This is important because DDT, like other insecticides, must be used with caution.

WARM UP MOTORS IN WINTER

Much of the hazard of cold weather operation of tractors and other engines can be eliminated by maintaining correct engine operating temperature.

A North Dakota engineer says that most farm tractor engines should operate at 180 to 190 degrees. When operated below the



correct temperature, not all of the fuel charge is burned. The unburned fuel washes the oil off the cylinder walls, causing wear on the rings and cylinder walls. In addition, some power is lost.

A lot of water vapor is formed in the combustion chamber while an engine is running. When the temperature is up to 180 degrees, practically all of this water goes out the exhaust pipe. If the engine is running at a low temperature, some of this water vapor condenses and gets into the crankcase. The oil then becomes milky. Some of this condensed moisture mixes with fuel soot to form sludge.

Running a tractor for short periods and shutting it off before it has reached correct operating temperature in cold weather causes a lot of wear. Whenever the engine is started during cold weather, make sure it warms up to correct operating temperature before shutting it off.

Engines are equipped with thermostats or radiator shutters to regulate the cooling capacity. They are designed to maintain operating temperature regardless of the weather or the load. It is important, however, that this equipment be serviced and kept in shape to insure proper operating temperatures.

LEAFLET ON AUTOMATIC WATERERS

The United States Department of Agriculture has issued an eight-page publication telling how to select, install, and operate various types of automatic waterers. It gives an indication of the cost of buying and operating such equipment.

Automatic waterers are rapidly replacing watering tanks and troughs on farms in regions where temperatures often go below freezing. They further insure a constant supply of fresh water. They relieve the farmer of the task of hauling or carrying water to livestock. The electric heating elements relieve him of the task of chipping ice out of tanks or tending some other kind of water heater during freezing weather.

In tests at the Iowa Agricultural Experiment Station, hogs that drank from automatic waterers gained 10 pounds more per animal in 6 winter weeks than hogs watered twice daily. In other tests, cows that were watered automatically drank 18 per cent more water and gave 3.5 per cent more milk than cows watered twice daily. Moreover, the milk given by the higher-producing cows tested higher in butterfat.

A copy of U.S.D.A. Leaflet No. 395, "Automatic Livestock Waterers," may be obtained free from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

GUARD AGAINST PREGNANCY DISEASE

Dr. H. J. O'Connell, Wisconsin State Veterinarian, says that pregnancy disease is a toxic condition resulting from the extra demands on the ewes' system during gestation. It usually results from a faulty diet or lack of exercise, which allows waste products to build up in the body. Ewes carrying twins or triplets are especially susceptible.

The first sign of pregnancy disease usually is noted a few days before lambing, when some ewes start lagging behind the flock as it is driven. Affected ewes often grind their teeth, appear dull and weak, tremble when exercised, and may even go down.

While veterinarians can save ewes in some cases, pregnancy disease has a high mortality rate, and the lambs are usually lost, too. Sugar solutions injected into the bloodstream are most commonly used to treat ewes that have been stricken.

START THEM OUT RIGHT

Before putting baby chicks into the brooder house, there are a few precautions to take. Never put more than 500 chicks under one hover (350 is better). The more there are, the thicker will be the band around the hover at night. Those on the inside may be too warm and those on the outside too cold.

Allow ½ square foot of floor space per chick to 6 weeks of age. Confined chicks will need 1 square foot after they are 6 to 8 weeks old.

Provide one 2-foot chick-sized feeder for every 50 day-old chicks. Space a minimum of 4 feeders evenly around the hover. Put feeders at right angles to the hover so that the small chicks won't pile up beside them when moving to and from the hover heat.

Use 2-quart fruit jars inverted on metal or pyrex fountains. Provide 1 waterer for every 75 chicks, spacing a minimum of 4 evenly around the hover.

Brooding temperatures should be 90 to 95 degrees 2 inches above the litter at the edge of the hover. Reduce the temperature about 5 degrees each week. In case of disease, increase it immediately to keep the chicks warm.

A 12- to 18-inch guard made of corrugated cardboard reduces drafts and keeps young chicks from straying too far from the hover. Put the guard 2 to 3 feet from the edge of the hover, and move it back gradually. It can be removed after 7 to 10 days.

Coarsely-ground corncobs, wood shavings, or chopped straw can be used for litter. There should be 2 to 3 inches of litter on the floor. To keep chicks from eating too much of it, cover the litter with rough paper the first few days. Fresh material should be added as needed, and the litter should be stirred frequently.

HOLSTEIN CLASS— PAGE 18

It is with considerable pleasure that we present the first class in our 26th Annual Hoard's Dairyman Cow Judging Contest on page 18. This is the annual picture judging contest that everyone talks about.

There will be a different class in each of the next four issues, so all five major dairy breeds will be included.

When you judge the Holsteins, be sure to save your placings until you have judged all

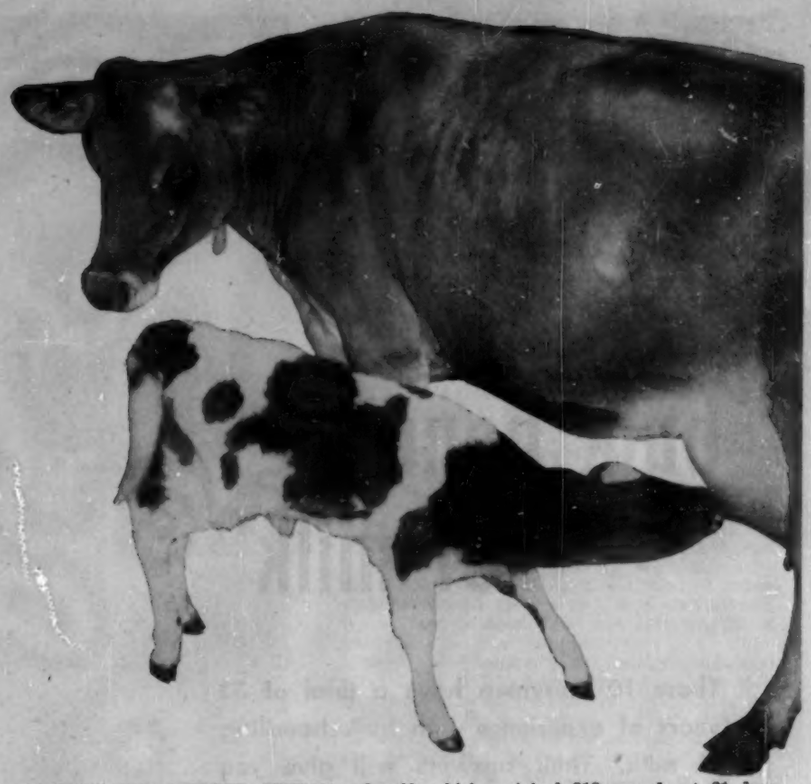
five classes. Then use one of the official entry blanks that will appear in every issue until the contest is over and mail it to Hoard's Dairyman, Fort Atkinson, Wis.

There are many cash prizes and several different divisions, so plan now to be one of the participants.

Nursing calves reduce milk production

Experiments with identical twin cows show that a dairyman and his milker can do a better job of milking than a nursing calf.

by E. W. Swanson



ONE OF THE NURSED TWINS and calf, which weighed 212 pounds at 61 days.

ONE of the greatest milk-consuming classes in this country is the one nature intended milk for first — the nation's calves. It is hard to tell how much milk these calves get or keep the dairyman from getting. In some areas it is a large amount because of the practice of producing veal by nursing calves. This is the simplest and probably the best way to insure the production of choice veal, because a nursing calf gets all of the fine, rich milk it can hold and it grows fast and fat.

Calves which have nursed a high-producing cow are usually the ones which top the veal market.

When vealing is profitable . . .

Considering the costs and returns from vealing, we find that it usually requires 9 to 10 pounds of whole milk to get 1 pound of gain in a calf. So when 100 pounds of veal are worth at least as much as 1,000 pounds of milk, vealing is considered profitable. With veal at $25 and milk at $2.50, the profit comes from the increased value of the birth weight produced by finishing the veal.

At first glance these may seem to be the only economic considerations with the exception of labor. But there has long been a suspicion in the minds of dairymen that the calf was not a very efficient milker, and that most nursed cows didn't give as much milk as they should after their calves were sold. How to determine the truth of the matter was a vexing problem, and an important one.

If the nursing calf did not affect the cow's later production, the best method of raising calves for veals would be by nursing. However, if the nursing calf decreased the later production of the cow, it would make veal production unprofitable except from very low-priced milk.

The answer to this question has recently been sought by an experiment with identical twin cows at the University of Tennessee. Normal pair-mates of identical twins, which are raised and handled alike and which calve at about the same time, have been shown in many experiments to produce milk alike. Their daily milk weights differ by only a few tenths of a pound, if at all. Hence, if one of the twins is nursed and the other one milked, the differences in their production will be due to the milking methods. Four such pairs of uniform identical twins were used in six comparisons, two in two lactations and two in one lactation each.

As each pair freshened, one twin was allowed to nurse its calf until the calf was large enough to make a good veal while its mate was milked only by machine after the first day. The twins were grade Jersey and Guernsey heifers, and the calves were sired by Jersey, Holstein, and Hereford bulls.

The calves of the milked twins were also allowed to nurse their milk—from a nipple pail—all they wanted up to 20 pounds per day. Three of the nursed twins were milked twice daily after nursing, but the other three were not because their calves seemed to be taking nearly all of their milk.

The most interesting result of the experiment was the comparison of milk yields after the veals were sold. This is shown in the graph.

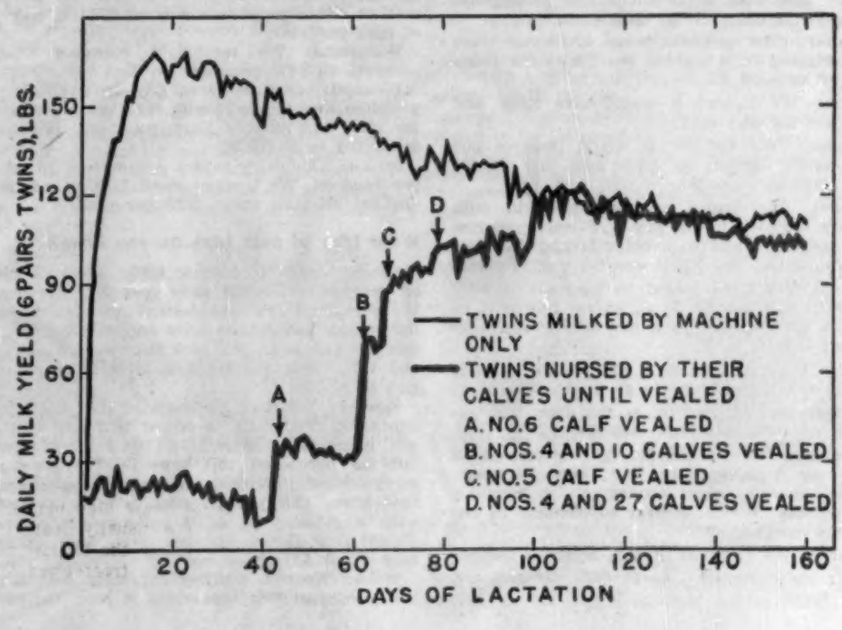
Nursed twins milked less . . .

In the first week after vealing the milked twins averaged 5.1 pounds per day more milk than their previously-nursed mates. This difference gradually narrowed until six weeks later both groups were producing nearly the same, as identical twins are expected to.

Those which had been stripped after nursing were just as much below their mates as those that had been nursed only.

The higher-producing heifers required longer to equal their mates' milk yields after vealing than did the low producers.

In looking for an explanation of the temporary lower production of the nursed twins, failure to let-down satisfactorily after the calves were sold was ruled out because the udders showed no signs of this effect after the first post-vealing milking, and because the fat tests of the two *(Turn to page 23)*



The author is professor of dairying at the University of Tennessee.

HOARD'S DAIRYMAN ROUND TABLE

"We like bulk handling of milk"

These 10 dairymen have a total of 32 years of experience with bulk handling of milk. Their answers will give you a better idea of what bulk milk handling can mean to you.

WILLIAM WARD, Wisconsin, in the act of pulling master switch on his ice bank bulk tank. Bill operates a 270-acre dairy farm with three partners, his father, brother, and uncle. They milk 60 Holstein cows that averaged over 10,000 pounds milk and 350 pounds fat in 1954.

How long have you used your bulk milk tank?

Lynn H. Sharp, Arizona: 5½ years.
Wesley N. Sawyer, California: 7 years.
Walter J. Hahn, Maryland: 5 years.
Forest Preston II, Pennsylvania: 2½ years.
Robert H. Miner, Connecticut: 4 years.
William Ward, Wisconsin: 3½ years.
Chellis P. Hall, Michigan: 1 year.
Robert Waterman, Maine: 1 year.
W. P. Bienapfl, Idaho: 1½ years.
Guy Stover, Jr., Iowa: 1 year.

What were your reasons for switching to a bulk tank?

Sharp: The distributor who buys our milk pioneered bulk handling of milk in Arizona. When they put the first tanker to use, there were 10 producers asked to put in bulk tanks at one time. As it looked like a money-and time-saver, I chose to be among the 10.

Sawyer: The cooperative to which we were then shipping milk started the first tank route and we were on it.

Hahn: We figured it would save labor and also save fat and milk.

Preston: We thought it would improve our milk quality, lighten our labor load, and provide for a gradual expansion of our herd.

Miner: Our dealer was interested in bulk delivery and willing to pay a 5 cent premium per hundred pounds to avoid enlarging his can-handling space. We felt it was the coming thing.

Ward: We were forced to purchase a milk cooler to stay on Grade A, so we felt that as long as we had to buy a new can cooler, why not buy a bulk tank.

Hall: We had to have a new cooler and felt that it was a good time to go into bulk cooling.

Waterman: We had to, as the dairy was going to do away with can receiving.

Bienapfl: We changed because we decided we could get higher-quality milk, more accurate weights, more efficient cooling, easier handling, and because it was a good supplement to our existing pipeline.

Stover: We switched to bulk handling because it is more convenient, keeps milk cleaner, and saves labor.

Do you receive a premium on your milk?

Sharp: We get a premium for all Grade A milk. Since it varies from time to time, it would be hard for me to say just how much it is per year.

Sawyer: We are receiving a 1-cent per pound of butterfat premium.

Hahn: Our dairy pays a premium of 10 to 12 cents per hundred pounds of milk.

Preston: We are paid a premium for Golden Guernsey milk, no additional premium for bulk tank cooling.

Miner: We get 5 cents per hundred pounds of milk as a premium.

Ward: Selling bulk milk to our present market has meant an average increase of 27 cents per hundredweight over what we had been receiving from the former Grade A market. In 33 months we have received an additional $2,063 for our milk or $744 per year over our former market. This represents around 275,000 pounds of milk per year.

Waterman: We receive a premium which amounts to $350 per year.

Bienapfl: Our dairy is paying a Grade A premuim over Grade B milk only, not a premium for the tank itself. Last year our premium amounted to $5,240.76.

Stover: Our dairy pays a premium of 10 cents per hundred. We average about 1,000 pounds per day so this runs about $360 per year.

What type of bulk tank do you have?

Sharp: Insulated holding tank. We cool with an aerator before the milk goes into the tank. We purchased this type because we already had the aerator and did not know enough about which was the best type. We took the most economical and this 750-gallon stainless steel holding tank cost us $2,000.

Sawyer: We have an insulated cold wall storage tank. The milk is cooled with an aerator and refrigeration unit. Cold wall is not used, but we purchased this type in the event of every-other-day-pickup which some creameries now have. Our present tank is stainless steel, with a capacity of 1,000 gallons and cost us $3,569. Installation charges were $60. It will take about 5 years to pay for this tank.

Hahn: We own a direct expansion bulk tank. We purchased this type since it cools the milk faster. The 400-gallon stainless steel tank actually holds 425 gallons. The cost was $2,450 for the tank and the compressor cost $535. It was installed for $135. I figure it will pay for itself in 3 years.

Preston: I purchased a direct expansion because I believe it is more economical to operate. This is a stainless steel, 170-gallon tank. It cost us $2,380, and the installation charges were included in this price.

Miner: We own a direct expansion tank which we feel has a lower operating cost than other types. We use both air and water in summer to cool our milk. This 400-gallon tank cost $2,611.20. Installation charges were $222.

Figuring all possible savings, we estimate that it will pay for itself in about 6 years. Our tank is painted on the outside. It has not chipped as yet but will rust if deeply scratched.

Ward: We have a 150-gallon, stainless steel ice-bank type tank. We chose this type since it cost less at the time we purchased it than other types. It took us a little over 2 years to pay for it. The cost was $1,580, installed.

Hall: We purchased a direct expansion type tank because we feel it will have a longer life, requires less upkeep, and does a better job of cooling. This 400-gallon stainless steel tank cost us $2,800. Installation charges were included in the price of the tank. It will take approximately 5 years for this tank to pay for itself.

LYNN SHARP
Arizona

Works 500 acres of crop land. Milks 225 registered Holsteins that averaged 435 pounds fat in 1954.

WESLEY SAWYER
California

Operates 850-acre farm and milks 200 registered Holsteins averaging 487 pounds of butterfat in 1954.

WALTER HAHN, Maryland dairyman, checking the daily milk production in his direct expansion bulk milk tank with a measuring stick. Mr. Hahn has an all-grass program on his 220-acre dairy farm where he milks 77 registered Ayrshires. His milk production in 1954 averaged over 9,104 pounds of milk and 365.7 pounds of butterfat.

Waterman: We own a direct expansion, mainly because we had done business with the seller and knew we could get service when necessary. This 600-gallon tank cost $2,968. We had to do the wiring, and the installation charges were $40. At the present rate, it will take about 8½ years to pay for this tank. It is a painted tank and as yet has shown no wear.

Bienapfl: We purchased a direct expansion type milk cooler because it has greater efficiency. This stainless steel, 1,000-gallon tank cost $4,575 and the installation costs were included in the price of the tank. Since we would have lost our Grade A market without installing a tank, we paid for it in 10 months with the difference between Grade A and Grade B prices.

Stover: I purchased a direct expansion type cooler because I preferred it over any other type. Our 300-gallon tank cost $2,800. The installation charges were included in the purchase price. It looks like it would pay for itself in 4 or 5 years. Our tank is painted on the outside. It looks good yet, but suppose in time it will rust unless it is kept repainted.

Was it necessary for you to remodel or build a new milk house?

Sharp: We built a new milk house with double doors which were large enough to install the tank.

Sawyer: We had to remove door frame and one row of blocks in order to install the new tank. We built barn and milk house in 1947 and contemplated use of bulk tank then.

Hahn: We did not have to remodel our milk house. The door was 4 feet wide which allowed our bulk tank to go through.

Preston: No.

Miner: We removed one end of the milk house and added a 6-foot extension to avoid being overcrowded. The floor level was dropped to put the top of the tank at a convenient pouring level.

Ward: Our milk house has a 3-foot door and this was large enough to get the tank through without enlarging or remodeling. Our milk house is 10 by 14 feet.

Hall: A partition had to be removed and the milk house was enlarged for our new bulk tank.

Waterman: We have just built a completely new barn and milk house. When building, we made the doorway large enough to allow passage of the tank.

Bienapfl: We had to remove part of the milk house wall to install our bulk tank, but we replaced it with a plate glass window.

Stover: It was necessary to remove part of an inside wall to take out the old can cooler and bring in the new tank. We also enlarged our milk room as it was rather small. It is now 12 by 14 feet and we find this size satisfactory.

What size herd do you think justifies a bulk tank?

Sharp: Here in Arizona almost all milk produced is Grade A fluid milk. This, of course, requires a refrigeration unit and refrigerator room, if you are using 10-gallon cans. The tank cooler can be purchased very nearly as cheaply as the cans and refrigerator room. Therefore, I would say that any size herd here could justify a bulk tank system. Generally speaking, however, my opinion is that it would take a 20- to 25-cow herd to warrant a bulk tank system. We produce 6,500 pounds of milk per day in the summer and 10,000 pounds per day in winter.

Sawyer: We feel that a farmer should have 60 or more cows to justify a bulk tank system. We produce 7,500 pounds of milk per day during the summer months and 7,350 pounds daily during the winter months.

Hahn: I think 15 or more cows would justify the use of a bulk tank in our area. We average 375 gallons of milk daily.

Preston: We believe not less than 20 cows would justify the use of a bulk tank. We produce 400 pounds of milk per day in the summer and 700 pounds daily in winter.

Miner: I think it depends more on other circumstances than herd size. Dealer and market demands, individual farm setup, labor, and skip-day pickup, just to name a few, are the things that may justify the use of a bulk tank system. We average between 1,300 and 1,600 pounds of milk daily the year around.

Ward: We believe a dairyman should have a minimum of 20 cows to justify a bulk tank system. Not only the size of the herd is important, but the production of the animals in the herd. We produce on the average 780 pounds per day and it is picked up every day.

Hall: A 20-cow herd will justify the use of a bulk tank in our community. Our herd averages between 1,400 and 1,600 pounds of milk per day the year around.

Waterman: Whether justified or not, there have been some very small producers, some with less than 10 cows, who have purchased tanks in this area. I would think that it would be necessary to produce at least 500 pounds daily, but there are some buying tanks that don't produce this much. We produce 1,300 pounds per day in the winter and 1,500 pounds daily in summer.

Bienapfl: I think the herd should be at least 30 cows, but 75 to 100 would be better. We average 2,125 pounds of milk daily in the summer and 1,700 pounds per day in winter.

Stover: I feel it would take 18 to 20 cows to justify the use of a bulk tank. We have our cows freshen the year around so our production average is about the same summer and winter—about 1,000 pounds daily.

What are the advantages of weighing milk on the farm?

Sharp: We are always able to check the weight and any milk spilled after it leaves our tank is not at our expense. Before, if a driver spilled a whole can of milk or part of a can, he said nothing about it and we took the loss. Our estimate has always been that we lost about 1 pound of milk per can. I think that bulk handling saves considerable as we are not losing the fat we used to lose on the parchment paper and around the rim of the can. Also, there is no spillage and no milk left in the tank as there used to be in the cans.

Sawyer: The measuring stick is calibrated fine enough to be an accurate measure for both producer and distributor. With a pipeline and bulk tank there is practically no loss from spillage. I was never able to determine the amount of milk spilled when using cans, but *(Turn to page 31)*

F. PRESTON II
Pennsylvania

Farms 90 acres of crop land and milks 30 Guernseys. Receives premium for Golden Guernsey milk.

ROBERT MINER
Connecticut

Produces 1,300 to 1,600 pounds milk the year around and has a 400-gallon bulk milk tank.

CHELLIS HALL
Michigan

Operates 250 acres and milks 38 Holsteins that averaged 479 pounds of butterfat in 1954.

R. WATERMAN
Maine

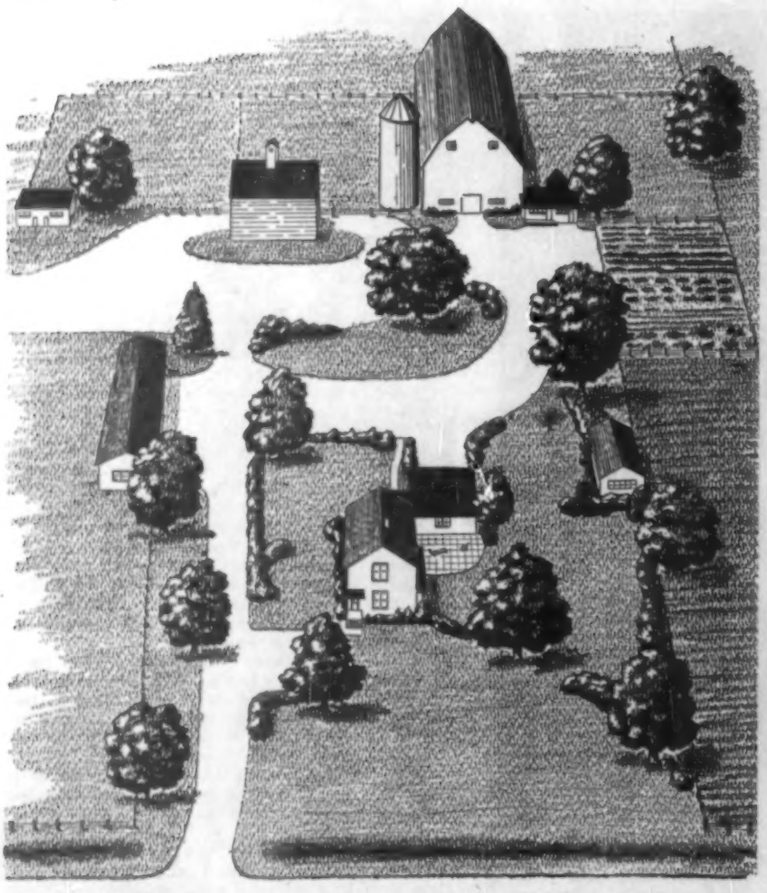
Milks 30 Holsteins that averaged 12,835 pounds milk and 507 pounds of butterfat in 1954.

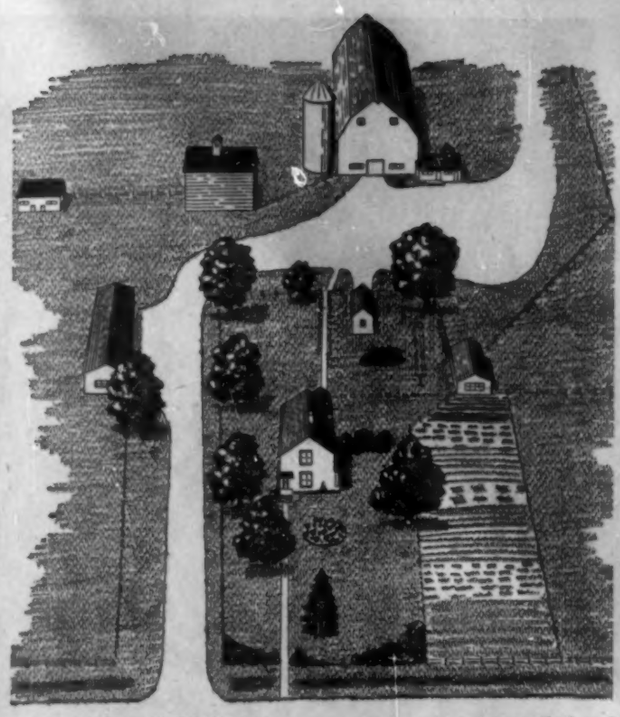
W. P. BIENAPFL
Idaho

Farms 124 acres of crop land. Milks 56 Holsteins averaging 11,452 pounds milk and 404 pounds fat.

GUY STOVER, JR.
Iowa

Operates a 160-acre farm. Milks 30 Holsteins that averaged over 400 pounds fat in 1954.





BEFORE LANDSCAPING — you can see how impractical and inconvenient this farmstead was. The change in the driveway with front and back door entrances made the big difference as shown in the drawing at the left. Smaller changes were made around most of the buildings, but these were not all made at one time. Put ideas on paper; keep them simple and easy to follow.

Ways to improve your landscaping

Next to raising a fine family, living in a beautiful farm setting is one of life's greatest pleasures. Make your plans now.

by H. R. Kemmerer

THE primary aim of landscaping is to make the farm more convenient and attractive for both living and working. Landscaping is not to be reserved for new farmsteads. Established farmsteads can be rearranged for greater efficiency and beauty.

If your buildings or existing trees are not located exactly the way they should be, do not feel that landscaping would not help improve your setting. Remember that practical farmstead landscaping is concerned mainly with improvement and not in the development of show places.

Improvements in the farmstead setting can best be made if a definite plan of activities is developed before anything is done. If you will take the time to make a plan, the overall cost will be less and the results much more pleasing than if you merely do things on the spur of the moment.

Put your thoughts on paper . . .

Start your landscape planning by making an accurate scaled drawing of your farmstead. On your drawing show the location of all buildings and the drive, walks, fences, light lines, tile lines, permanent trees, and all other features present on the grounds. It is necessary to include all features because each one will play a part in the ultimate picture which you will create.

With your scaled drawing as a guide, you will be ready to proceed with the development of your plan. It is best to do your planning on paper because it does not cost anything and if you don't like one idea you can develop another. You will find also that the scaled drawing will put your entire farmstead in front of your eyes with all the features in true relationship to one another.

Keep plan simple . . .

While you are putting your landscape picture together on paper, you will want to keep in mind certain basic principles which will help you develop a better plan. The most important of these is simplicity. By striving for simple arrangements, you will reduce the amount of work necessary to maintain your setting. The confusion and clutter that often occur with elaborate plans will also be eliminated. If, after your planning is complete, you find that the arrangements are too simple to be interesting, all you have to do is add some trees or shrubs to make the setting more appealing.

In addition to simplicity, you will want to make sure that the entire farmstead is treated as a unit. Do not take pains to make the area around the house attractive and then forget all about the farm buildings. You will be amazed to see what a little planning and planting around the farm buildings will do to make your entire setting more attractive.

Plants make up only one of the groups of features which you will need to consider. Another set of features which are as important as plants are the physical features. Included among them are walks, drives, fences, patios, fireplaces, clotheslines, and all other nonliving materials on the ground which comprise the farmstead.

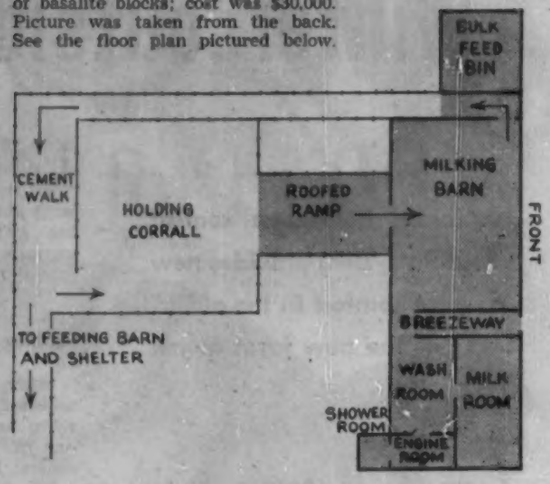
The arrangement, design, and color of the house and farm buildings must also be considered. For example, if all your buildings are different colors, your farm probably will not have a unified look.

Be willing to make changes . . .

In your planning try to develop your farmstead the way you would like to see it. Do not restrict your thinking by assuming that existing features or arrangements are permanent. Fences, drives, walks, and other features that have to be replaced occasionally need not interfere with your plan. When they are replaced, you can put them in according to your plan. Even existing buildings can sometimes be relocated or completely eliminated from the grounds. With many farmsteads a logical procedure *(Turn to page 37)*

The author is extension specialist in landscaping at the University of Illinois, Urbana.

MILKING BARN, 57x24 feet, built of basalite blocks; cost was $30,000. Picture was taken from the back. See the floor plan pictured below.



Push-button milk barn cuts labor

by Neale Leslie

This Californian has a $30,000 dairy barn that he believes will pay for itself in 8 years, just in saving milkers' wages.

WANT to cut down on those milk barn chores? A push-button walk-through barn may be the answer.

That is how Hein F. Peuten, Petaluma, Calif. dairyman, was able to streamline his operation so that his entire 100-cow milking herd could be handled by 1 person in a matter of 2 hours, 20 minutes. Mechanization has, in effect, doubled the barn's efficiency.

In designing the barn, Peuten laid it out to eliminate every unnecessary step; there is virtually no lost motion. "You can look right through from the milking room entrance to see if the milk cooling system is working," he explained.

The 57- by 24-foot basalite block milking barn features a solid 8-inch thick concrete floor. Its aluminum roof is 8 feet high at the walls on the sides, and 14 feet at the apex. It has an 18- by 10-foot milk room, a 12- by 10-foot washroom, and a 4- by 10-foot engine room.

Milking begins promptly at 4 a.m. and 4 p.m., so that cows are milked at 12-hour intervals. They rotate in almost the same order in the Grade A barn.

First the cows are driven into the 48- by 30-foot corral. This corral has a 1½-inch pipe fence, supported by sturdy 2½-inch pipe posts. There are a good 6 inches of concrete under the corral.

Before entering the 8-cow barn, the animals go through the 12- by 24-foot dripping shed. This shed has sides 8 feet high. After the cows are placed in the stalls, an automatic feeding system goes into operation. A 12-ton capacity, 10- by 12-foot bulk bin, 10 feet high, is located adjacent to the milk barn. This bin can be filled with concentrate from a bulk feed truck through a trap door in the roof.

The inside of the bin has a 65-degree slope, with a "U" trough at the bottom. The vacant space at the sides is filled with rocks to discourage rodents.

When a button located in the milking barn is pressed, a 3-horsepower electric motor goes into action, driving an 8-inch horizontal auger which carries the concentrate into a 10-foot vertical conveyor. A separate 1-horsepower electric motor powers its 7-inch auger.

The feed then passes into a horizontal, 8-inch auger 24 feet long. It fills the 8 bins with 250 pounds of feed each, in a matter of only 5 minutes.

As soon as the supply chute becomes blocked with feed, a hinged plate is forced upwards. This operates a solenoid located at the end of the main horizontal feed distributing auger, and automatically shuts off the power.

Peuten has a hand scoop for transferring the feed from the bins to the hoppers. This permits feeding according to production.

Another labor-saving feature is the fully-automatic pipeline washer which eliminates the necessity of stripping down the pipelines.

The cost of the barn and all equipment, including a 440-gallon stainless steel holding tank and a 54-inch stainless steel cooler, totalled "close to $30,000," said Peuten.

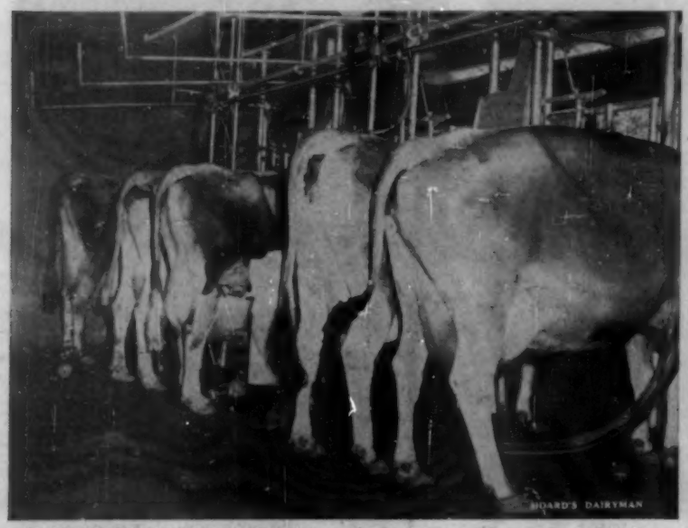
He estimates his milking barn saves him $4,000 per year; it eliminates one milker's wages and cost of housing facilities. He feels he achieves greater efficiency with just the one milker.

Peuten's herd of grade Jerseys averages 503 pounds butterfat on D.H.I.A. in 305 days, twice daily milking.

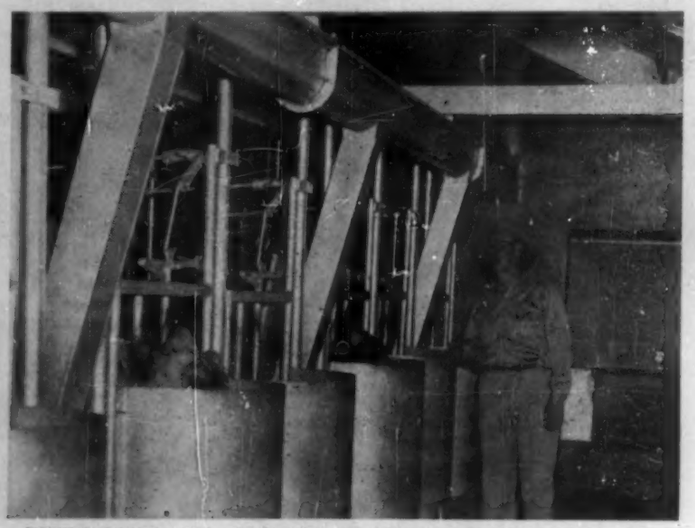
Peuten harvests 250 tons of oat-hay annually off his 250-acre ranch; he buys another 60 tons. In contrast with most other dairymen in the area, he feeds a comparatively small proportion of alfalfa per year—only 100 tons.

Peuten is very satisfied with his push-button milk barn, and is convinced it provides maximum efficiency for his plant.

THE END



EIGHT-COW WALK-THROUGH milk barn has labor-saving features so that one milker can handle 100 head of cattle in 2 hours, 20 minutes.



PEUTEN CHECKS the 24-foot-long horizontal auger. This auger carries the concentrate to feed bins. Eight bins are filled in five minutes.

Winter outside . . . summer inside

A forced hot water central heating system provides new kind of comfort in the old as well as the new farm home.

by C. F. Craigie, Jr.

Plumbing and Heating Industries Bureau

IT IS no accident that provision for the right kind of heating system receives first consideration in any farm home modernizing plans. For ever since man first received the gift of fire and felt its comforting warmth, home heating has been a matter of primary concern.

This natural preoccupation with warmth and comfort is reflected by the very word used to designate home—hearth, or place of fire.

Since a home cannot be enjoyed to the full unless it be comfortably and uniformly warm when heat is required, the problem becomes one of how best to assure this comfort. A central heating plant is the obvious answer.

Not so many years back, a central heating system was a seldom-encountered novelty in a farm home. Now, many farm families are investing in the basic home comfort provided by a central heating system. And many more may be expected to do so in the months and years ahead.

Considering all the advantages offered, it is hardly surprising that farm families regard a forced hot water central heating system with such high favor.

One of the chief reasons for popularity of forced hot water heating is the fact that water lends itself to a wider range of temperature variations than any other heating medium. Furthermore, due to its density and ability to hold heat, hot water provides uniform warmth and comfort in the home.

Wide range in heat . . .

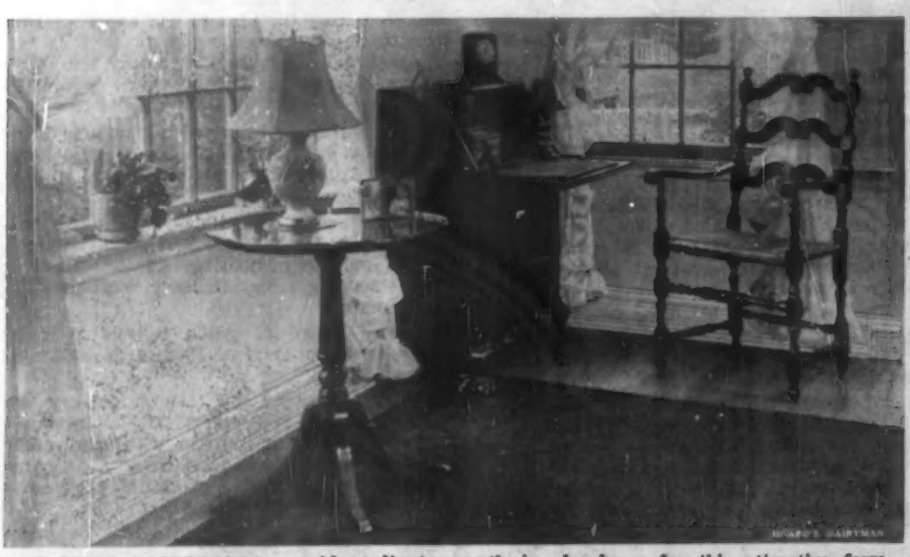
The practical temperature range for hot water heating is from 95 to 205 degrees for heat distributing units. In unusual cases (when winter is at its worst, for instance), a temperature of 215 degrees may be required. This spread of 120 degrees permits ideal heating under all conditions of temperature and wind velocity in all types of construction.

A forced hot water central heating system provides every essential of good heating. The boiler, which is its heart, transfers heat to water which is pumped through heating units to warm the house. Boilers are fired by oil, gas or coal. In the case of coal, firing is manual, or automatic when a stoker is employed. A conversion boiler has the advantage of adaptability to any fuel or method of firing, thus affording protection against fuel shortage or excessive fuel costs.

A forced hot water central heating system provides an abundance of even, properly-distributed heat without discomfort caused by drafts. Hot water heat is clean heat, safe heat. Modern boilers are equipped with various types of safety controls.

There is plenty of flexibility with a forced hot water heating system. Using the most modern of thermostatic controls, such a system is geared to deliver replacement heat automatically in exact measure with heat lost by the house in cooling.

In severe weather, the heating system operates at full capacity to compensate for rapid cooling. On the other hand, in mild weather when the house cools slowly, the system slows down to prevent overheating. In either case, heat is maintained steadily at the ideal comfort level. There is no waste of fuel with such a system, assuring lower operating costs.



HEATING BASEBOARDS provide radiant warmth in abundance for this attractive farm living room. Painted to match walls, they add an interesting decorative touch to the room.

CONVECTOR may be used beneath window. Cool air along floor enters convector through archway, passes over concealed hot fins, and emerges as warm air through grille at top.

LIVE-FRONT RADIATOR can be used in bathroom and to provide heat in restricted areas.

The heat provided by a forced hot water central heating system is radiant heat like the warming rays of the sun, delivered by modern type heating units near floor level where warmth is most appreciated.

No hot ceiling—cold floor . . .

The outstanding characteristic of a forced hot water central heating system is uniformity of temperature provided. Differences in temperature between floor and ceiling are insignificant, and the same feeling of warmth and comfort is experienced near an exposed window area as against a protected inner wall.

A forced hot water central heating system offers a choice of any of four alternate methods of heat distribution — panels, baseboards, convectors or radiators.

Panel heating makes use of continuous coiled piping installed in concrete slab, walls or ceiling when the house is being constructed. Hot water circulates through the pipes to warm walls, floor or ceiling, as the case may be.

Because a conventional panel installation calls for so much remodeling, it is usually passed over in favor of an alternate method of heat distribution once a house has been built.

The newest development in heat distribution is the baseboard. This is a heating unit which closely resembles the wooden baseboard it replaces.

The baseboard heating unit incorporates a pipe-like channel through which hot water from the boiler circulates to provide even, low-level heat along outside walls where it is most needed to keep a room comfortably warm and free of cool air drafts from windows.

There are two types of baseboard heating units—the radiant baseboard and the radiant-convector baseboard. The latter provides convected as well as radiant heat, as the name suggests.

In the radiant-convector baseboard, cool air along the floor enters an opening in the bottom of the unit, is warmed in passing over concealed fins and subsequently released into the room from an opening at the top to provide convected heat.

The radiant type of baseboard unit is adequate in some installations. In most cases, however, the use of the radiant-convector baseboard is indicated, since the combination of radiant and convected heat makes it possible to get a greater heat output per lineal foot of baseboard.

Convector units operate on the same principle as the radiant-convector baseboard to provide a steady flow of uniformly warmed air. They also afford warmth by radiation through the panel enclosing them.

Convectors are handsomely-styled units which enhance the decorative scheme of any room. They are compact and fit snugly under a window, or may be installed in a window seat. They also may be recessed, or even built into the wall when a new house is being constructed.

Radiator 40% smaller . . .

The radiator, best-known of the four methods for heat distribution, has come a long way from the ugly duckling of the parlor of a bygone era. The modern radiator has been given the glamor treat-

(Turn to page 28)

Ful-O-Pep "40"...

mighty mix for milk!

Ful-O-Pep "40" turns your grain into

MILK AT LOW COST!

It's new! It's extra-efficient!

Here's a completely new dairy concentrate that's hard to beat. It's new, *high-efficiency* Ful-O-Pep "40". . . the mighty mix for milk. Yes, Ful-O-Pep "40" is heavily fortified to promote top milk production and sound cow health . . . to help your cows get *maximum milk production* and *maximum efficiency* from your own grain and roughage!

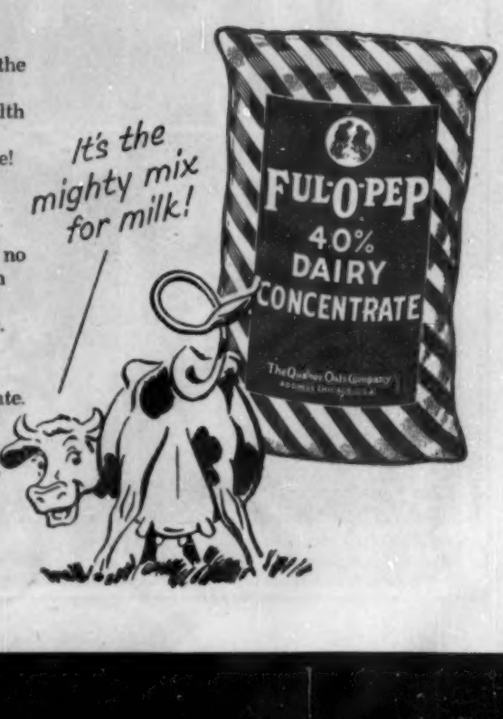
A little goes a long, long way!

The beauty of new Ful-O-Pep "40" is that it takes only 100 lbs. to balance 600 lbs. or more of grain. And there are no pre-mixes, small quantities, or special items to bother with . . . just one mixing operation and you have a real efficient ration that promotes *heavy, continuous milk flow.*

Makes more moo-la for you!

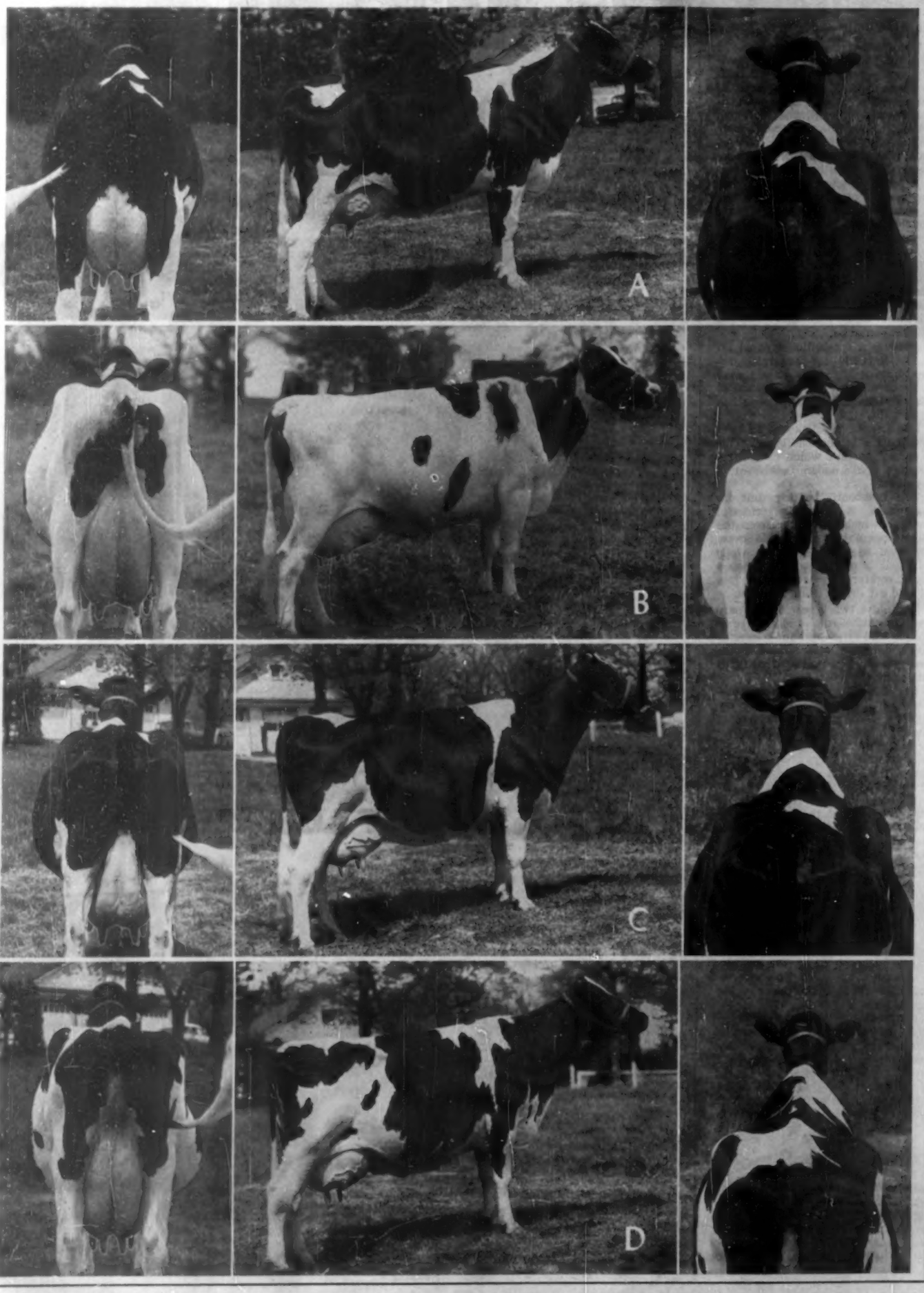
Yes, you really save cash with this low-cost dairy concentrate. It takes so little Ful-O-Pep "40" mixed with your grain, for a *powerful, milk-making feed!* More and more profit-minded dairymen are increasing milk production, and their milk checks, too, with the help of new, *high-efficiency* Ful-O-Pep "40".

See your Ful-O-Pep Dealer



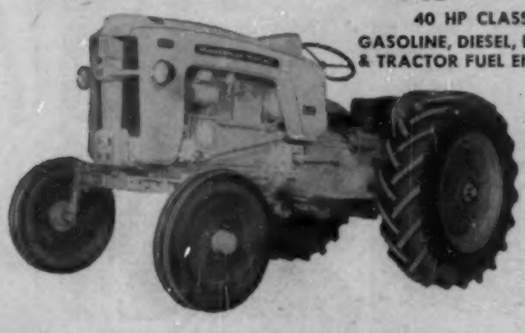
THE HOLSTEIN CLASS

1st Class, 26th Annual Cow Judging Contest, official entry blank on page 30



Announcing MM's OUT-AHEAD tractor the all-new POWERLINED 445

445 UNIVERSAL
40 HP CLASS
GASOLINE, DIESEL LP GAS & TRACTOR FUEL ENGINES



445 UTILITY
40 HP CLASS
GASOLINE, DIESEL, LP GAS & TRACTOR FUEL ENGINES

Go ahead! Look 'em over! You've got a *right* to be proud, because these are the tractors *you* helped build!

Here's the question MM asked thousands of farmers, county agents, agricultural experts, and farm machinery dealers . . . "What should a new tractor give you to make farming pay better today?" Then MM took the answers and turned them into one of the biggest advances in power farming history: the completely new Minneapolis-Moline out-ahead tractors . . . the POWERlined series.

Here are just a few of the many, many new MM advantages that make the MM POWERlined series all new from the ground up. For your *own* profit future, be sure you get *all* the facts, Now!

WRITE NOW FOR FACTS ON THE OUT-AHEAD MM 445 —AT YOUR MM DEALER!

NEW **DYNAMIC NEW DESIGN!** The out-ahead POWERlined look.

NEW **EXCLUSIVE AMPLI-TORC*** Revolutionary MM Speed-Power Selector.

NEW 3-POINT HITCH Time-Saving hydraulic hook-ups, 2-way control. NEW

NEW **BLAZING POWER!** All new valve-in-head engines.

NEW POWER STEERING* Steer with a touch on any ground. NEW

NEW **NEW IMPLEMENTS** Matched to POWERlined farming.

*Extra Equipment

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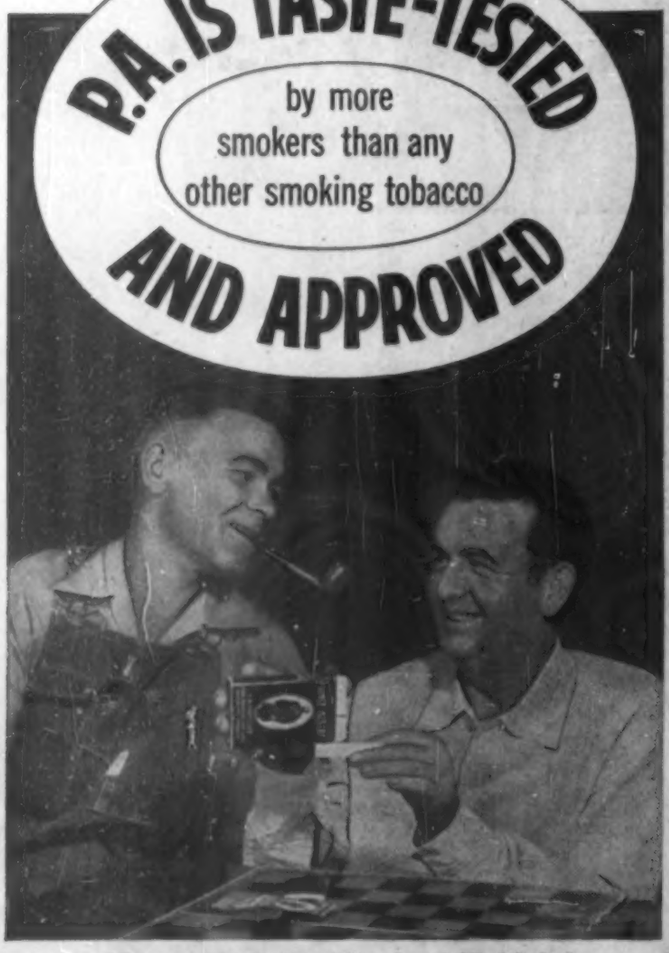
MINNEAPOLIS 1, MINNESOTA *trusted quality since 1825*

Every minute of every smoking day . . .

P.A. IS TASTE-TESTED by more smokers than any other smoking tobacco AND APPROVED



Choose P. A. For Pipe and Makin's!

"I've been 'testing' P.A. for years", says Eulos S. Naylor, machine operator, "and for me, no other tobacco comes close to Prince Albert for real good taste." Automobile-body builder Winn Sowell agrees: "P.A. is perfect for makin's smokes. Rolls easy and smokes real mild, too."

Tobacco as Nature meant tobacco to be! P. A.'s exclusive process *holds* and *heightens* the mild, natural tobacco flavor. More men have tested and chosen Prince Albert than any other smoking tobacco.

Mild-Tasty-so cool smoking!

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Brower Mfg. Co., Box 2502, Quincy, Ill.

EASY TERMS

FEEDING

by N. N. Allen

What about urea?

Urea can reduce our protein costs, but urea in feed does not always mean lower-cost protein.

UREA is a comparative newcomer among the common feedstuffs. While German research workers showed years ago that cattle could use urea to replace a part of their protein, it was in the late 1930's that it was shown to be a practical feed for dairy cattle.

Its use in every-day feeding had barely started when the war shut off the supply for that purpose. The feed trade was waiting for it when it again became available, and we now see it listed on the labels of many feeds.

We get many letters regarding its cost, its feeding value, possible harmful effects, and various other questions. Since it is definitely here to stay, and can save some money on the protein bill, it might be well to take a closer look at the problem.

Urea is not a protein . . .

Urea is not a protein, nor does it contain any protein. It does contain nitrogen, a key building material for forming protein by plants. The animal cannot use it directly for building protein. As a matter of fact, it occurs in the animal body as a waste product of the use of protein.

The dairy cow, however, along with other cud-chewing animals, has a way of using it indirectly. In the first compartments of her system of stomachs, she has bacteria growing in immense numbers. These bacteria are really tiny one-celled plants. These very small plants are able to use urea and other simple nitrogen compounds in the same way that they would be used by a corn crop when applied to the land as a fertilizer. They combine the nitrogen of the urea with carbon, hydrogen, and oxygen from carbohydrates of the feed such as sugar or starch to build protein.

The cow digests these bacteria just as she would digest any other plant and gets the protein which they have formed. She can use urea to the extent that the bacteria are able to build protein from it.

Urea high in nitrogen . . .

A hundred pounds of pure urea will contain 46 pounds of nitrogen. As a fertilizer, it would be listed as 46-0-0, which is much higher than most other nitrogen fertilizers.

A hundred pounds as prepared for use in feeds will contain 42 pounds of nitrogen. Since 100 pounds of protein will have only about 16 pounds of nitrogen, this 42 pounds will be enough to make about 262 pounds of protein, provided 220 pounds of carbon, hydrogen, and oxygen are supplied by the starchy or sugary feeds such as corn, oats, or molasses. Here are some of the common questions:

It is true that urea may poison cattle if too great amounts are fed. It is just as true that too much salt will kill cattle. But like salt, urea is perfectly safe if fed properly. It is usually recommended that not more than 3 pounds of urea be used in each 100 pounds of grain mix that is to be fed to the cows, and that the feed be mixed thoroughly so that they will not get larger amounts.

Since this is based on the pure urea, 46 per cent nitrogen, we could use about 3⅛ pounds of the usual 42 per cent product.

It is required by law that the part of the guaranteed protein value of a commercial feed which is from urea be stated on the label. If the label lists "not more than 9 per cent protein equivalent from urea", it probably contains 3 per cent urea and is perfectly safe for feeding as it comes from the bag.

Some commercial feeds may contain greater amounts, but the label will state that they are for mixing with other feeds and are not to be fed directly. Such high urea feeds should be kept out of reach of the cattle and used only as directed. It is not advisable to feed straight urea or mixing feeds by placing on top of the other feed at each feeding.

How much can be saved?

The saving will depend on the price we pay for the urea containing feed and the amount it contains. A hundred pounds of the 42 per cent nitrogen urea will wholesale now at somewhere in the neighborhood of $6.

With a theoretical 262 per cent protein value, we might figure that we are buying protein at less than 2½ cents per pound, which is less than a third the cost in any of the common high protein feeds. Actually it is not quite that cheap, for we must also consider the 220 pounds of carbohydrates which are necessary to make it into protein.

We often use a rule of thumb for figuring values of urea. A hundred pounds of urea and 600 pounds of shelled corn will have about the same feeding value as 700 pounds of soybean or cottonseed meal.

Let's figure an example with soybean meal at $3.75. Seven hundred pounds will come to $26.25. If we figure 100 pounds of urea at $6, we could break even if 600 pounds of corn cost $20.25, which would be almost 3.4 cents per pound or about $1.90 per bushel. Since corn can be bought for considerably less, there is a substantial saving by using the urea, even though soybean meal prices are lower than usual.

Watch the feed label . . .

This does not mean that any urea-containing feed you might buy will save you money. They differ greatly in cost and value, so every one must be considered on its own merits.

For example, taking local retail prices, I can buy a pound of protein in soybean meal at less than 9 cents. In one high-protein urea containing mixing feed, (one-third of the protein as urea) it will cost more than 10 cents.

In another (about two-thirds urea protein) it will cost 14 cents. In still another (all urea protein) it will cost over 16 cents. In all three of these, the merchandising costs and profits have more than overbalanced the savings from use of urea, and they are not good protein buys.

The one reason for use of urea has been economy. There has been no good evidence of any special benefits to justify paying more for urea than its protein substitution value.

It is true that bacteria of the types found in the cow's paunch may grow and digest roughage-like material slightly better if they have some ammonia or urea as a source of nitrogen than if it is all furnished as protein. But this is in a test tube where, at best, they grow poorly.

There is no good evidence that they will improve digestion of roughages by a cow on a good dairy ration to an extent that will justify added cost. So the best bet at present is to figure the worth of urea on its protein replacement value. It can save on the feed bill, but the economy of any urea-containing feed will depend on the extent to which the saving is passed on to the feeder.

Establish National Guernsey Futurity

The executive committee of the American Guernsey Cattle Club has approved a National Guernsey Futurity for 3-year-old cows.

Owners of animals must enter them as heifer calves and keep them eligible by paying two additional fees. For the first Futurity in 1957, heifers of an age to have shown as yearlings in 1955 are eligible. Secretary R. D. Stewart announced that nomination fees for the first Futurity must be sent to the American Guernsey Cattle Club not later than March 1, 1956.

It is estimated the probable value of the 1957 Futurity purse will be more than $3,000. Final competition will be held during the fall show season at a centrally-located fair to be named.

The purse will be split among the top 20 finalists, with 20 per cent scheduled for the winner, 15 per cent for the runner-up, and 10 per cent for third.

Nominations for the 1958 Futurity are also due by March 1, 1956, while those for the 1959 Futurity will be due by November 1 of 1956.

New evidence that flavor counts

Samuels and Company, meat packer of Dallas, Texas, seems to have hit on something much worthwhile in the hot dog market by flavoring frankfurters with butter and honey. It is reported that since adopting this innovation, his wiener sales have tripled and most significant is the fact that this has happened in the oleo country.

Apparently, this is another proof that butter flavor really counts.

—J. H. FRANDSEN.

Allis-Chalmers Engineering in Action brings you

TRACTION BOOSTER FARMING with NEW BIG-CAPACITY IMPLEMENTS

The work capacity of the dynamic Allis-Chalmers WD-45 Tractor . . . great as it was . . . has now been vastly increased by the introduction of a fundamental new principle of power application, which enables it to handle much larger and heavier implements . . . a development made possible by the exclusive Allis-Chalmers Traction Booster system . . . *as fully automatic as the tractor's governor.*

To farmers, the significance of this new engineering achievement is tremendous. Reduced to simple terms, it means—*more* work . . . done *better* . . . in *less* time . . . at *lower* cost.

So that WD-45 owners may capitalize on this added work capacity to the fullest, Allis-Chalmers has introduced a line of new big-capacity, wheel-transported *Traction Booster* implements of outstanding design and performance.

These include two double-action disc harrows (10-ft. and 12½-ft.); a 4-bottom moldboard plow; and a heavy-duty, 4-blade disc plow—all big, husky implements, with quick SNAP-COUPLER Hitch, and pulled from a single free-swing hitchpoint.

Get the news from your Allis-Chalmers dealer today—learn about this great new development in power farming!

FARM EQUIPMENT DIVISION
MILWAUKEE 1, WISCONSIN

SNAP-COUPLER is an Allis-Chalmers trademark.

CHANGES A DRAGGING LOAD TO A ROLLING LOAD

Hydraulic TRACTION BOOSTER *automatically* shifts implement weight to tractor's drive wheels, as needed, for ground-gripping traction. Instead of a dragging weight, you have *rolling* weight . . . an easier load to pull, requiring less fuel per acre.

The WD-45 Tractor easily handles the big 12½-ft. double-action disc harrow in third gear . . . up to 60 acres a day!

Power farming at its best

ALLIS-CHALMERS

NEW McCORMICK® NO. 40 Power-Drive Manure Spreader

Dump heaping forkfuls of manure on the McCormick No. 40 spreader! The rugged, reinforced frame and treated-wood box can take it! Steel flares cradle the load . . . protect low box sides from loader damage. The No. 40 spreader hauls 140 bushels of manure to save you trips to the field.

You can set the No. 40 to spread from ½ to 14 loads of manure to the acre. Power take-off drive assures uniform distribution even in slippery fields. Over a hundred beater teeth tear matted manure to pieces! The upper beater shaft also serves as a tie-rod . . . there's no upper arch to cause plugging. By adjusting spreader axle fore and aft you can shift weight on the tractor drawbar to get maximum traction.

Choose the spreader that's right for you from five McCormick models with capacities ranging from 45 to 140 bushels. Ask about chore equipment for all 5 Farmalls. Use IH Income Purchase Plan of Buying.

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International Harvester products pay for themselves in use—McCormick Farm Equipment and Farmall Tractors... Motor Trucks... Crawler and Utility Tractors and Power Units—General Office, Chicago 1, Illinois

Slam-bang loading with this McCormick power loader doesn't faze the rugged McCormick No. 40 spreader. You get a big load on fast because Farmall® "live" hydraulic power keeps loader fork moving without clutch interruptions as you maneuver tractor.

Get "close-shave" clean-ups with Fast-Hitch blade. This six-foot blade swivels right or left . . . tilts up and down at either end. Digging angle is adjustable.

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Nursing calves reduce milk production

(Continued from page 11)

groups were the same. The most probable cause of the milk reduction was, however, incomplete milk removal from the udder during most of the nursing period. This milk, left in the udders of the nursed cows, could start the drying up process in part of the udder.

Nearly 1,500 pounds milk lost . . .

The milked twins each produced 106 pounds of 4.66 per cent milk more than the nursed ones after vealing, and 1,390 pounds more during the nursing period; so the total milk loss due to nursing was nearly 1,500 pounds. The calf fed by nipple pail got a little less than 1,200 pounds of milk, so the net difference between the two veal feeding methods was about 315 pounds per cow of salable milk.

These production and marketing results are shown in Table 1. Instead of the nursed veals, which sold for an average of $3.56 more than the fed veals, proving more profitable, they actually returned 44 cents less per hundred, or a loss of more than $6. If milk had been valued at $3 per hundred, the nursed calves would have returned a net loss while the fed calves would have made a small profit.

The returns per hundred of milk by nursing veal and hand-fed veal, based upon the results of this experiment, at different prices for veal are shown in Table 2. There it is clearly shown that the hand-fed veal is the most profitable at all levels, but that its advantage decreases as the price of veal drops. It is also apparent from these figures that it takes good veal prices to give a dairyman a reasonable return for milk.

There are, of course, other factors to be considered in the economy of veal production. The size, vigor, and health of the calves are important. The larger the calf at birth, the faster it reaches veal size, and the more profitable it is. Labor or milking difficulties may also be involved in deciding whether to produce veal by nursing or hand-feeding.

The effects of nursing on the cow, though, must be considered. The nursing calf is a big milk waster as well as eater, and in the end he may not be the only sucker in the barn. **THE END**

Table 1.
Comparing veal calves that were nursed and hand-fed

	Nursed	Fed
Birth weight, pounds	71.2	69.5
Veal weight, pounds	194.3	190.3
Total gain, pounds	123.2	120.8
Days fed	65.3	66.7
Gain per day, pounds	1.93	1.82
Carcass grade, average	High good	Low good
Selling price, cents per pound	21.3	20.0
Sales value of calf, dollars	41.80	38.24
Milk lost or fed to calf, pounds	1,496	1,179
Return per hundred, milk, dollars	2.79	3.23*

*An average of 21 cents worth of calf starter (4.67 pounds) consumed per calf was deducted from calf value before calculating return from milk.

Table 2.
Differences in return from milk between nursed and hand-fed veal

Suckled veal*			Hand-fed veal**			
Price of veal	Value of veal	Return for milk	Price of veal	Value of veal	Return for milk	Difference in milk return
¢/lb.	$	$/cwt.	¢/lb.	$	$/cwt.	¢/cwt.
13.3	25.54	1.70	12	22.80	1.90	20
15.3	29.36	1.96	14	26.60	2.22	26
17.3	33.22	2.24	16	30.40	2.53	32
19.3	37.96	2.47	18	34.20	2.85	38
21.3	40.90	2.73	20	38.00	3.17	44
23.3	44.73	2.98	22	41.80	3.48	50
25.3	48.58	3.24	24	45.60	3.80	56

*Veal assumed to weigh 192 pounds and to have accounted for 1,500 pounds of milk production lost or consumed (4.66 per cent fat milk).
**Veal assumed to weigh 190 pounds and to have accounted for 1,200 pounds of milk production lost or consumed (4.66 per cent fat milk).

Concern with world cost-price squeeze

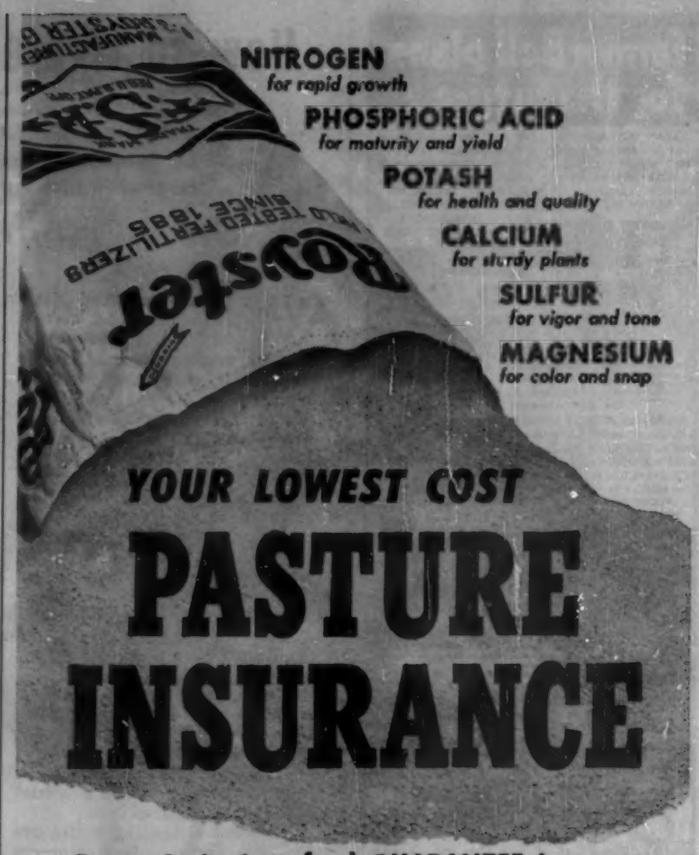
Great concern was expressed at a recent farm conference in Rome for the cost-price squeeze in which farmers find themselves today all over the world.

"In the last few years there has been a persistent decline in the ratio of prices received by farmers for their products to the prices paid for things they need, both as agricultural requisites and for family consumption," the meeting stated.

The worst cost-price squeeze is in the countries which are important agricultural exporters. Although the level of farm income has increased in comparison with pre-war levels, the delegates said, agricultural incomes in most countries are still well below the average of those in other occupations.

This does not mean, delegates to the International Federation of Agricultural Producers (I.F.A.P.) added, that for the reasonably efficient producer the position is desperate. "The almost universal adoption of government price support policies is, for one thing, a significant safeguard against disaster," the Report of the meeting says.

"And, as already noted, the existence of general anti-cyclical policies in the most important countries provides substantial insurance against a serious depression which would have repercussions on the other sectors of the economy. Nevertheless, the growing cost-price squeeze and the accumulation of serious surpluses in certain key commodities give reason for concern."



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LATER IN FLORIDA
IMAGINE! IT'S THE MIDDLE OF WINTER AND THEY'RE SHIPPING FRESH VEGETABLES, MILKING BARNS AND LAYING HOUSES ARE NOT HEATED, AND CATTLE ARE ON OPEN RANGE. I'M SOLD ON FLORIDA.
AND EVERY FARMER WE'VE TALKED TO, ED, HAS BEEN ENTHUSIASTIC ABOUT FLORIDA LIVING, TOO.
BACK HOME...
I SEE YOU'VE MADE UP YOUR MIND, ED.
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How to figure depreciation

Straight-line method is most common. Be consistent on property acquired or constructed before December 31, 1953.

by I. F. Hall

WHEN summarizing farm expenses, the total cost of certain items cannot be used as operating expense for one year. Such costs are for new equipment, buildings, and livestock (used for breeding and dairy purposes).

Depreciation is an estimated operating expense covering wear and tear of property used in your farm business. Annual depreciation allowance is that portion of the cost of the item when acquired, which the owner estimates was used during the current tax year.

The first step in figuring depreciation is to determine the useful life of each item on which depreciation is claimed. There are no "official" or average life expectancies which are recognized as applicable to all farms. It is, therefore, necessary for each taxpayer to estimate the total expected life for each item on which depreciation is to be claimed.

Guides for estimating useful life of various items of farm property are published by the Internal Revenue Service in its "Bulletin F."

Depreciation for the current year only may be deducted. Depreciation which was allowable, but not taken in prior years, cannot be deducted from income of the current year. Depreciation not previously claimed must, however, be subtracted from the original basis in determining the gain or loss from the sale or exchange of depreciable property.

When the estimated life of any depreciable item is either shortened or lengthened by increasing or decreasing its use or by making major improvements, it will be necessary to establish a new number of "years of life." The cost of such improvements must be included in the depreciation schedule for the year in which the improvements were made.

What can be depreciated? . . .

Depreciation may be taken on tile, fence, machinery, equipment, and all farm buildings (except the dwelling owned and occupied by the taxpayer) until the total cost (less salvage value) has been recovered. Depreciation should not be claimed on the dwelling of the owner-operator or his partners. Nor should repairs, taxes, or insurance be charged on these dwellings or their contents on Form 1040 F. However, such costs are allowable on a tenant house and all other farm buildings.

Those who file returns on the cash basis may also take depreciation on dairy cattle, breeding, and work stock which were purchased by the taxpayer. No depreciation is allowed on any livestock raised by the taxpayer who files on the cash receipts and disbursement basis, since all costs of raising have been deducted as operating expenses.

If you are reporting on the accrual basis, depreciation may be taken on such animals whether raised or purchased, when they are recorded in the capital account and in the depreciation schedule.

Those using the cash basis should list each building, piece of machinery, and animal on which depreciation is to be computed in the depreciation schedule. Such items as cows and small implements may be grouped on Form 1040 F, but such groupings should be made from the totaling of a detailed individual list kept current in a permanent farm record book.

How to figure depreciation . . .

For depreciable property acquired or constructed before December 31, 1953, you should continue to use the same methods as you are now using to figure depreciation on this property unless you have permission to change to another method. It is important that you be consistent from year to year in the method used and in the amount claimed on each item. Every change should be explained at the bottom of the depreciation schedule on Form 1040 F.

The most common method used by farmers is the straight-line method. Under this method, the amount to be deducted as depreciation each year on any item is determined by dividing its cost or other basis when acquired, less its estimated salvage value, by the total number of years you estimate the item would last if you were to keep it throughout its useful life.

On new property acquired after December 31, 1953, and property constructed, reconstructed, or erected after December 31, 1953, section 167 of the Internal Revenue Code allows farmers to use more liberal methods of figuring depreciation. Any of the following methods may be applied to such new depreciable property:

(1) The straight-line method described above;

(2) the declining balance method, using a rate not exceeding twice the straight-line rate;

(3) the sum of the years' digits method; and

(4) any other consistent method, provided the total deductions during the first two-thirds of the useful life do not exceed those allowable under the declining balance method.

Methods (2), (3), and (4) cannot be used if the useful life of the property is less than 3 years. They cannot be applied to the cost of used property that you have purchased or otherwise acquired. If construction, reconstruction or erection was begun in 1953 or earlier, these methods may be applied only to that portion of the cost (or other basis) that is properly attributable to construction, reconstruction, or erection after December 31, 1953.

Methods compared . . .

Assume you have a tractor costing $2,000 with a useful life of 10

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years—salvage value at the end of 10 years, $200.

Year	Straight-line 10 per cent	Declining balance 20 per cent	Sum-of-the year's digits
1st	$180	$400	$327
2nd	180	320	295
3rd	180	256	262
4th	180	205	229
5th	180	164	196
6th	180	313	164
7th	180	105	131
8th	180	84	98
9th	180	67	65
10th	180	54	33
Unrecovered cost	$200	$214	$200

Declining-balance detailed . . .

This method uses a rate not in excess of twice the straight-line rate. Under this method a certain percentage is applied to the unrecovered cost of the property instead of to the original cost over its useful life. Since the unrecovered cost is reduced each year by the depreciation deducted, the percentage is applied to a declining balance from whence it gets its name.

The depreciation allowances are considerably larger in the early years than those resulting from the straight-line method. The declining-balance method at twice the straight-line rate will write off 40 per cent of the original cost of the property in the first quarter of its useful life and two-thirds of its cost in the first half of its life.

The salvage value is not deducted from the original cost to get the cost base for depreciation as is done with the straight-line method. At the end of 10 years there is still $214 unrecovered cost.

You should understand that this method applies only to new property acquired since December 31, 1953. You cannot use it on your used equipment or other used property.

For example, you may buy used equipment or even the adjoining farm. The equipment and barn have been used by the former owner. The declining-balance method cannot be used on the alloted cost of this barn or the equipment, even though this is the first time the new owner will compute depreciation.

If the new owner should spend $4,000 to remodel or add to the barn, this new construction could use the declining-balance for the $4,000, which could be at a rate twice the rate used on the other part of the barn.

Another privilege is that after using this method a few years, you may change the remaining unrecovered cost above its salvage to the straight-line method.

If one chooses to use this method on new property, it is more necessary to keep a complete detailed depreciation schedule of each item of property rather than bunch the values as has been done on many income tax returns.

Remember, if you build or remodel any grain or corn storage, you can recover this cost in five years, or a 20 per cent depreciation rate. A new silo or barn was normally depreciated at 3 per cent. Under this declining-balance method, you can use 6 per cent.

With Social Security now availabel to farmers, it may be best not to depreciate too fast, as this will reduce your net farm income and your social security benefits. Of course, if your net farm income is above $4,200, it will still pay you to take the higher depreciation rate.

Sum-of-the-years' digits complicated . . .

This method results in about the same pattern of depreciation as the declining-balance method. Depreciation is higher the first few years. This method applies a varying rate of depreciation to the cost, reduced by its estimated salvage value. The rate applied is a fraction. When one uses 10 years as useful life, the sum-of-the-years' digits, 1 through 10 is 55. The fraction used the first year would be 10/55 of $1,800, or $327 depreciation. The second year would be 9/55 of $1,800, or $295 depreciation, and so on until the 10th year 1/55 of $1,800, or $33.

This is more complicated than the declining-balance method, and allows less depreciation.

The automobile on the farm is used both for business and personal use. Depreciation will be allowed for the percentage of costs estimated for the farm business. Water and electric installations are also both business and personal.

Animal Production Award winners

OUTSTANDING NUTRITION SCIENTISTS flank the new president of the American Society of Animal Production, Dr. L. E. Casida, University of Wisconsin. Dr. L. E. Hanson (left), University of Minnesota, was named by the society to receive the American Feed Manufacturers' Association Award while Dr. E. W. Crampton, McDonald College, Quebec, was selected to receive the Morrison Award. Both awards are based upon outstanding contribution to animal nutrition research. They were presented during the 47th annual meeting of the society, in Chicago, with some 900 members attending.

Filter protection for farm engines is a must, and you can depend on the AC brand to do the job every time. Keep a supply handy so you won't waste time when you want to change a filter on your truck, tractor, car or stationary engine. With 125,000 dealers selling AC Oil Filters, there are sure to be several nearby. Any one of them will supply AC Oil Filters specially designed for your engines.

AC SPARK PLUG THE ELECTRONICS DIVISION OF GENERAL MOTORS

EDITORIAL COMMENT

HOME — A PLACE OF BEAUTY

ON PAGE 14 of this issue we begin a series of fine, helpful articles on beautifying the farmstead. These features should interest everyone in the dairy farm family because they can affect our pleasure 365 days in the year.

We feel strongly on this subject of beautiful farmsteads because we have seen so many examples of what just a few changes can do to make a cluttered hodgepodge of buildings, trees, shrubs, and lawn into an attractive setting for the center of our life.

For the next several months we hope to find space to publish at least one article on landscaping each month. This means there should be a feature in about every other issue.

Follow this series; clip out the articles and save them for ready reference next spring. If an added moment of pleasure and satisfaction results from your applying one of the ideas contained in these articles, we shall be rewarded, too.

WANT A RINGSIDE SEAT?

WHEN labor and management sit down to bargain on wage increases the man most seriously affected is usually absent. At least, this is often the case when the dairy processor bargains with workers in dairy plants. Inevitably a part of any wage increase is passed back as a drop in the farm price of milk. It may not happen immediately, but eventually this occurs.

From the editor of The Dairy Record, a processor publication, comes the suggestion that dairy farmers might justifiably seek the right to sit in on such wage negotiations. Why not? Profitwise they may have a greater stake in the final settlement than does the processor.

A PRAYER FOR STATESMANSHIP

AS THIS editorial is written, national farm organization leaders are meeting with two leading United States senators to explore areas of agreement on agricultural legislation. Senator Allen Ellender (D-La.), chairman of the Senate Agriculture Committee, suggested a few weeks ago that farm groups attempt to reach unanimity on some, or all, of the points involved in a farm program.

Taking up the suggestion, the National Milk Producers Federation has invited leaders of The National Grange, the American Farm Bureau Federation, the National Council of Farmer Cooperatives, the National Farmers Union, Senator Ellender, and Senator George D. Aiken (R-Vt.) to confer in Washington, December 19.

Readers of these columns will recall that we have repeatedly urged such a conference and the reconciliation of differences between national groups which represent the American farmer. Last April we quoted a 1775 statement by Edmund Burke which read: "All government—indeed, every human benefit and enjoyment, every virtue and every prudent act —is founded on compromise and barter."

It is significant to us that Senators Ellender and Aiken were invited to meet with the farm leaders. If these two gentlemen insist on the compromising and reconciliation of differences, perhaps we may see some progress toward the writing of a more realistic and helpful national peacetime farm program.

We pray that the men who sit down together December 19 will honestly endeavor to subjugate past grievances and subordinate organizational advantage and pride for the good of all agriculture.

No one should expect this first meeting to provide the final answer. It can reveal, however, whether all groups are willing to make the necessary effort. If Senator Ellender and Senator Aiken emphatically insist on this approach, the prospects are reasonably bright. They will have performed a great service for American agriculture.

COWS EAT GRASS — AND GIVE MILK

ABOUT eight months ago we took exception to some advice offered by Undersecretary of Agriculture True D. Morse. At that time he was urging that diverted acres be planted to hay, pasture, and forage crops to feed our cattle population.

We stated then: "We simply do not have the markets where we can sell at a reasonable price the milk and beef which can result from Mr. Morse's recommendation. He is asking for more butter, cheese, and powder in his government warehouse."

Now comes another report from Washington stating that Department officials are drafting a "Soil Bank" plan. Under it, the government would agree to pay the cost of planting soil-conserving grass or cover crops on land taken out of production of such surplus crops as wheat, cotton, and corn. Here is the hooker, however. Farmers would be able to use this diverted acreage for pasturing livestock.

If this type of surplus buck-passing is to be fostered by the Department of Agriculture and is ever enacted into law, dairy farmers, in good conscience, can give up on any form of self-help dairy program, sales promotion, or any other type of effort which endeavors to rectify our present surplus condition. The responsibility then will be entirely that of the United States government.

UNIFORM BUTTER GRADES

SEVERAL states have either adopted or have shown considerable interest in the grading and labeling of butter. We are thoroughly sold on the merit of this trend.

Before we go much further with our state legislation, however, we should look into the future and picture where we may be if more state laws are passed. This matter of uniformity of grades concerns us.

It would be desirable if the Council of State Governments or some such similar interstate agency would make an effort now to agree on a desirable state law providing for the grading and labeling of butter. If we do not, we may have hopeless confusion in years to come as each state has a slightly different requirement for butter grades. Interstate traffic will become snarled and one more impediment to efficient marketing will arise.

SO, WE ARE THANKFUL!

MY MORNING newspaper and the radio carried stories of an airplane disaster—of Molotov's wrecking the Geneva conference —of the woman shooting her husband, mistaking him for a burglar—of eight teen-agers dying in highway wrecks. Not pleasant breakfast reading, and it starts one wondering what the world is coming to.

However, on reflection, one must realize that we are getting all the world's woes and sometimes, at that, in exaggerated form and played up in the most sensational way. Whereas, in the days of yore, without the newspaper and radio, we were concerned largely with matters in our own local section. These came to us in plain, down-to-earth terms, not dressed up in sensational ways to make the most news. So, after all, the shape of the world is better than that hurried breakfast preview might make it appear.

This point of view, I think, is brought out very nicely in an article (which recently came to my attention and first appeared in Changing Times, the Kiplinger magazine) which very optimistically stresses the things that are right with the world. Among these are listed the following items:

162,922,000 Americans are not Communist party members.

162,944,424 people have not been frightened by seeing flying saucers.

37,011,460 couples will stay more or less happily married this year.

Most of the time, 15,720,000 organized workers are **not** on strike.

About 43,846,150 income tax returns were filed correctly this year.

About 63,868,000 people are working to bring home the bacon.

Scheduled airlines safely carried passengers for 18,902,134,841 miles last year.

83 countries in the world have **not** discovered the secret of the hydrogen bomb.

Some 162,717,890 persons will not die of cancer this year.

162,380,580 people will be safe from fatal heart attacks.

About 620,000,000 acres of forest land will not be set on fire by careless smokers and picnic-goers this year.

Approximately 33,293,000 children will sit at dinner tables every evening and remind their parents that they really are learning something at school.

So, we are thankful that our world is as good as it is. —J. H. Frandsen

In 1915, W. D. Hoard said:

Left to ourselves, as farmers we incline almost invariably to the point of the least resistance. We are no longer masters of our destiny. Our environment has closed in upon us and we become helpless before it. We can no longer do work for the future, the only kind of work that builds for the better. The burden of today is upon us. We must break out of this slavish environment; strive to change conditions and bring in a better set of consequences. Certain men have done this; their number is constantly increasing as the light shines brighter on the way.

Cheese is the bait

. . . and it appears the trap could catch the trapper. Here is the story behind the news headlines and cartoons about big "cheese deal."

by H. Willis Tobler

CHEESE is in the spotlight. Previously butter was the whipping boy for the uninformed and the critics of the farm price support program. Now cheese is at the post. There is a noisy congressional investigation and with it the usual output of cartoons, attempted witty editorials, and slanted news items.

Why all this furor?

The beginning of the story goes back to February 15, 1954. On that date the Secretary of Agriculture announced that, starting April 1, 1954, the support price for dairy products would be reduced from 90 to the legal minimum of 75 per cent of parity. This meant a price drop from $3.74 per hundredweight to $3.14 per hundredweight.

Following this announcement dairy farmers began to feel the impact of the coming price reduction. Handlers of dairy products did not wait until April 1 to pay farmers less for their milk.

The intent was obvious. Processors were charging inventory losses to farmers and planned to unload their entire holdings on the government. By early March the situation became intolerable. It was at this point that the Department of Agriculture came forth with a transition program designed to assure dairy farmers protection against further price declines.

Under the proposed program, C.C.C. agreed to buy, through March 31, 1954, cheese at 37 cents per pound and immediately sell to the holder of the cheese at 34.25 cents per pound, without physical delivery of the commodity to C.C.C.

Under the grading requirements, C.C.C. only buys cheese which has been graded 10 days or more after it is made. The usual price support operations would have denied eligibility for price supports to cheese made after March 21 until April 1, at which time support prices would be at 75 per cent of parity.

The obvious response by holders and processors of cheese, in addition to cutting prices to producers, would be to sell to C.C.C. their entire inventory of cheese made up to March 21. This would have emptied the merchandising pipelines of cheese, leaving little, if any, in retail stores, at the very time that C.C.C. had large stocks on hand. The Department, therefore, extended the 10-day requirement on grading so as to exempt cheese produced from March 21 to April 1.

This move guaranteed 37 cents per pound on all cheese made up to April 1, and the right to buy this cheese back at 34.25 cents per pound April 1. The processors and holders of cheese were able to pay dairy producers the 90 per cent of parity support price and, at the same time, maintain their own inventories and not have C.C.C. own all the cheese.

Under the agreement approximately 86.6 million pounds of cheese were purchased and sold at a differential of 2¾ cents per pound, with a cost to the federal government of slightly over $2¼ million.

It was the 37 cents purchase price and the 34.25 cents sales price that touched off the congressional investigation.

On June 1, 1955 a subcommittee of the House Committee on Government Operations announced that it "will try to find out why the Department of Agriculture bought millions of pounds of cheese from manufacturers last year and immediately resold it to the same manufacturers at a lower price."

The Democrat-controlled subcommittee (five Democrats and three Republicans) undertook to make an investigation of the actions of a Republican appointed Secretary of Agriculture.

Several days were spent in receiving testimony from the Department of Agriculture, with considerable repetitious questions and answers. Throughout the hearings, the questions, statements, and observations by the Democrat majority members indicated that they were bitter critics of the transactions.

On the other hand, the Republican members stoutly defended the procedure used to support prices.

Following the investigation, the subcommittee requested the comptroller general to rule whether or not the Department of Agriculture had the legal authority for its purchase-sale operation.

The comptroller general stated that the transactions were unauthorized and improper. He held that the purchases were not bona fide. The attorneys of the Department of Agriculture strongly maintained that the transactions were legal.

The issue is now with the Department of Justice to determine what action, if any, should be taken.

(As we go to press, Department of Justice lawyers report they can find nothing illegal in the cheese transactions. —The Editors)

Should legal action be taken to recover the $2¼ million from those who in good faith participated in the transition program, then fairness and justice demands that these people should be restored to their original situation which existed prior to the purchase-sale operation. They should be permitted to operate as they would have had there been no transition program. This would result in all cheese being sold to C.C.C.

Could have cost $39 million . . .

The cost to the federal government would be over $39 million. C.C.C. would have to buy not only the 86.6 million pounds involved in the transition program, but also about 20 million pounds taken out of the dairy product pipelines, a total of over 106 million pounds, all at 37 cents per pound instead of 2¾ cents as in the transition program.

Very little of this cheese would have been sold back to the trade because, under the price support program, C.C.C. has been buying cheese continuously from the trade since April 1, 1954.

Dairy farmer support . . .

The Secretary of Agriculture and other officials of the Department were not alone in defending the transition program. Real support came from the dairy farmers themselves through their own organization, the National Milk Producers Federation. The Department of Agriculture was backed completely in undertaking and carrying out the program.

This support by the Federation was not routine. On several occasions the Federation has vigorously opposed some actions by the Secretary. In this instance the dairy farmers wholeheartedly supported the transition program. All dairy farmers were benefited.

Recognizing the value of dairy farmer support, True D. Morse, Under Secretary of Agriculture, filed with the subcommittee a statement issued by the National Milk Producers Federation. It stated: (1) Under the conditions existing at that time the agreement was eminently well-suited to these conditions, (2) the program enabled the C.C.C. to maintain prices to farmers at the announced support levels, and (3) this was accomplished without requiring C.C.C. to become the permanent and sole possessor of all manufactured dairy products then in the hands of suppliers.

Saved storage costs . . .

The federation also pointed out that the program saved C.C.C. the shipping charges which would have been made if the cheese had to be sent to C.C.C. Furthermore, C.C.C. would have been liable for at least one month's storage, including all in-and-out warehouse handling charges.

Prior to Mr. Morse's appearance before the subcommittee, an unprecedented incident occurred. Instead of being the first witness to be called during the day's hearings, as is usually accorded top level officials, the Under Secretary and an assistant Secretary of Agriculture were compelled to wait for hours while a staff member of the Department was interrogated by the subcommittee. Finally, a Republican member pointed out that Mr. Morse had a statement to make.

In his brief testimony, Morse placed great reliance on the position of the National Milk Producers Federation. In referring to the statement of the Federation, he said the Federation members "follow these matters very closely and they are in a position to analyze all such transactions and know the effect on dairy farmers."

Later Morse said, "that organization (the federation) is almost an even closer student of the dairy situation than the Department itself."

The subcommittee may resume its investigation when Congress returns this year. If the subcommittee will make certain inquiries at that time it will find, according to E. M. Norton, secretary of the National Milk Producers Federation, that the purchase-sale program under investigation has been used on other occasions by the Department of Agriculture, at a time when the Secretary of Agriculture was appointed by a Democratic administration. Mr. Norton should know — he was an official of the Department in charge of the program.

Under these circumstances, the majority of the subcommittee may find that the cheese is still good but the bait is no longer so alluring.

THE END

The author is director of the legislative division of the National Milk Producers Federation.

ED . . . and EMMA

"Well, sure, he's a good man. But I'd be careful about putting him up for president — Olaf's the type who'd knife you in the back . . ."

". . . Never eavesdrop on the party line unless you want to hear something about yourself! Ed rubbernecked on Olaf the other day!"

"I have found my DARI-KOOL cheaper to own, cheaper to maintain and cheaper to operate than my other tank!"

says Mr. Harry G. Thomas
Ellicott City, Maryland

I had a direct expansion type tank, but needed more capacity so I purchased a 700 gallon DARI-KOOL (ice bank) bulk milk tank.

I much prefer my ice bank tank as I have found the DARI-KOOL cheaper to own, cheaper to maintain and cheaper to operate than my other tank. Both have water-cooled compressors, but the direct expansion unit must be started manually while the DARI-KOOL is completely automatic. Nor do I worry about the DARI-KOOL compressor as it cannot be overloaded no matter how fast I milk. Neither will my DARI-KOOL freeze my milk which my other unit has done many times with the consequent danger of burning out motors and lowering my butterfat test due to this freezing.

I still have both tanks but use my DARI-KOOL until it overflows, then I have to put the surplus in my other tank. Although my DARI-KOOL was sold to me to cool 35 cans a day I have had very excellent cooling when putting in 50 cans a day. I am certainly glad I followed my decision to buy a DARI-KOOL.

Harry G. Thomas

Ellicott City, Maryland

DARI-KOOL

BULK MILK COOLER

The ICE BANK COOLER that outperforms them all

ELIMINATES MILK CANS AND CAN HANDLING

Model shown above is DKS — 300 (300 gallon capacity)

Also available in: 100, 150, 200, 250, 400, 500, 600 and 700 gallon sizes.

DARI-KOOL MEETS ALL 3-A SANITARY STANDARDS

Farm-proven, guaranteed DARI-KOOL bulk milk coolers are sold and serviced everywhere. See your nearby DARI-KOOL dealer.

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Please send me, without obligation, complete information on the advantages of cooling milk in a DARI-KOOL Bulk Milk Cooler.

Name.....

Town.....RFD.....

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Distributed throughout Canada by BEATTY BROS. LTD., Fergus, Ontario.

Winter outside . . . summer inside

(Continued from page 17)

ment. Now 40 per cent smaller, but retaining the same heating capacity as the old-style radiator, this streamlined unit radiates warmth through slender, shapely tubes. Just as dependable as ever, the radiator continues to be a prime favorite for heat distribution.

What is involved in the installation of a forced hot water heating system and how does it compare in cost with, say, a forced warm air system? These are questions that arise automatically when the decision to install central heating has been made.

In answer to the second question, when provision is made for the indirect heating of domestic hot water at the time a forced hot water central heating system is installed, the combined initial cost will not exceed that of installing a forced warm air heating system, plus providing an auxiliary heater for domestic hot water.

As to what is involved in the way of installation, it is obvious that a central heating system is installed most easily when a house is being built. However, it should be emphasized that such an installation can be made at any time with a minimum of inconvenience to the homeowner.

In the case of the older farm home without a basement, installation of a baseboard heating system is quite simply accomplished, involving little more than removing the wooden baseboards and replacing them with the heating units.

Boiler in closet!

The boiler, thanks to modern compactness of design, can be fitted easily into a roomy closet or first floor utility room. It should be placed on a concrete slab to prevent the wooden floor beneath from overheating and thus creating a potential fire hazard; that is, unless it be a wet-base boiler which rests on a protective water jacket.

Piping to supply first floor baseboard units is run from the boiler through the crawl space. Risers to supply second floor units are run up through a closet, which neatly hides them from view. Baseboards are connected with piping concealed between the first and second floors.

In many cases it will be found more practical to build a shed boiler room against one of the existing walls of the house. When this is done and the peak of the shed roof is above the second floor line, the entire house can be heated with baseboards in loop series. This eliminates a major item of cost for running piping in the crawl space and between floors.

Baseboards, which deliver "low-level" heat, are an ideal choice for heating a basementless house where the perennial complaint is of cold floors. Tests conducted by the Mechanical Engineering Department of the University of Illinois have established this fact.

In a basementless prefabricated home with concrete slab where engineers recorded their observations, the thermostat was set to maintain a temperature of 72 degrees at the 30-inch level.

The slab surface temperature in the center of the room remained constant at 68 to 69 degrees in cold weather, and warmed up a degree or so in milder weather. Furthermore, when the baseboard heating unit was in use, surface temperature of the slab one foot from the outside wall was 72 degrees during zero weather. This was in contrast to a slab temperature of only 60 degrees one foot from a wall where a radiant baseboard was not used.

Important economies of installation are assured with the new series, or loop, baseboard heating hookup with single, continuous piping running to and from the boiler. Savings can amount to as much as 50 per cent in labor, piping and fitting costs, or an average of $12.50 per heated room.

Suitable controls constitute the "brain" of any automatic heating system, being essential to safety, economy and exact regulation of temperature so that maximum comfort is assured at all times.

And good control for a forced hot water heating system will operate satisfactorily with a baseboard heating installation. Control may be achieved by a simple thermostat strategically located, or by the extremely effective indoor-outdoor thermostat, which modulates boiler water temperature to conform with changes in the weather.

"Zone control," too . . .

Baseboard heating is admirably suited to zoning, by which controls provide for different temperatures in different parts of the home. Thus, living quarters are zoned for a higher temperature than bedrooms. Thermostatic controls hold the temperature steady in each zone. Important fuel savings can be realized with zoning, which effectively prevents the waste of excessive heating.

Up to this point, the discussion has concerned installation of a forced hot water heating system in the farm home which has lacked a central heating plant.

SPACE ECONOMY provided by the modern boiler for a forced hot water central heating system is shown by comparing size of the boiler in the picture with the man standing beside it. Such boilers fit readily into first floor closets and utility rooms, as well as the basement. The boiler shown is gas-fired and completely automatic in operation. Other boilers are designed especially for oil and coal-firing, and some boilers are adaptable equally to all three fuels.

Nothing has been said of the possibilities of modernizing an existing installation, especially the older gravity hot water system.

Gravity systems have lost favor because they require larger pipes and fittings and are not as responsive to automatic controls as a system with hot water mechanically circulated.

Another disadvantage encountered with the gravity hot water system is the hard-to-heat room. Frequently, water will not circulate by gravity to one or more remotely-located radiators. This difficulty is easily overcome by installing a pump in converting to a forced circulation system.

A forced circulation hot water system has a further edge over the gravity system in providing for installation of separate coils inside the boiler for the indirect heating of domestic hot water.

The hot boiler water circulates around the coils to heat water for all household needs. The boiler water and domestic hot water come from separate sources of supply and never mix.

With a gravity system, domestic hot water cannot be heated by this indirect method because there is no way of preventing circulation of hot boiler water in heating units in mild weather when heat is not required. A forced circulation hot water system, on the other hand, has a flow control valve which prevents gravity circulation.

Indirect domestic water heating by the boiler is a modernization measure providing ample hot water for new appliances, baths, kitchen and even small dairies. Year-round use of the boiler actually adds to its life by preventing deterioration from summer dampness and condensation. It also assures a dry basement or utility room.

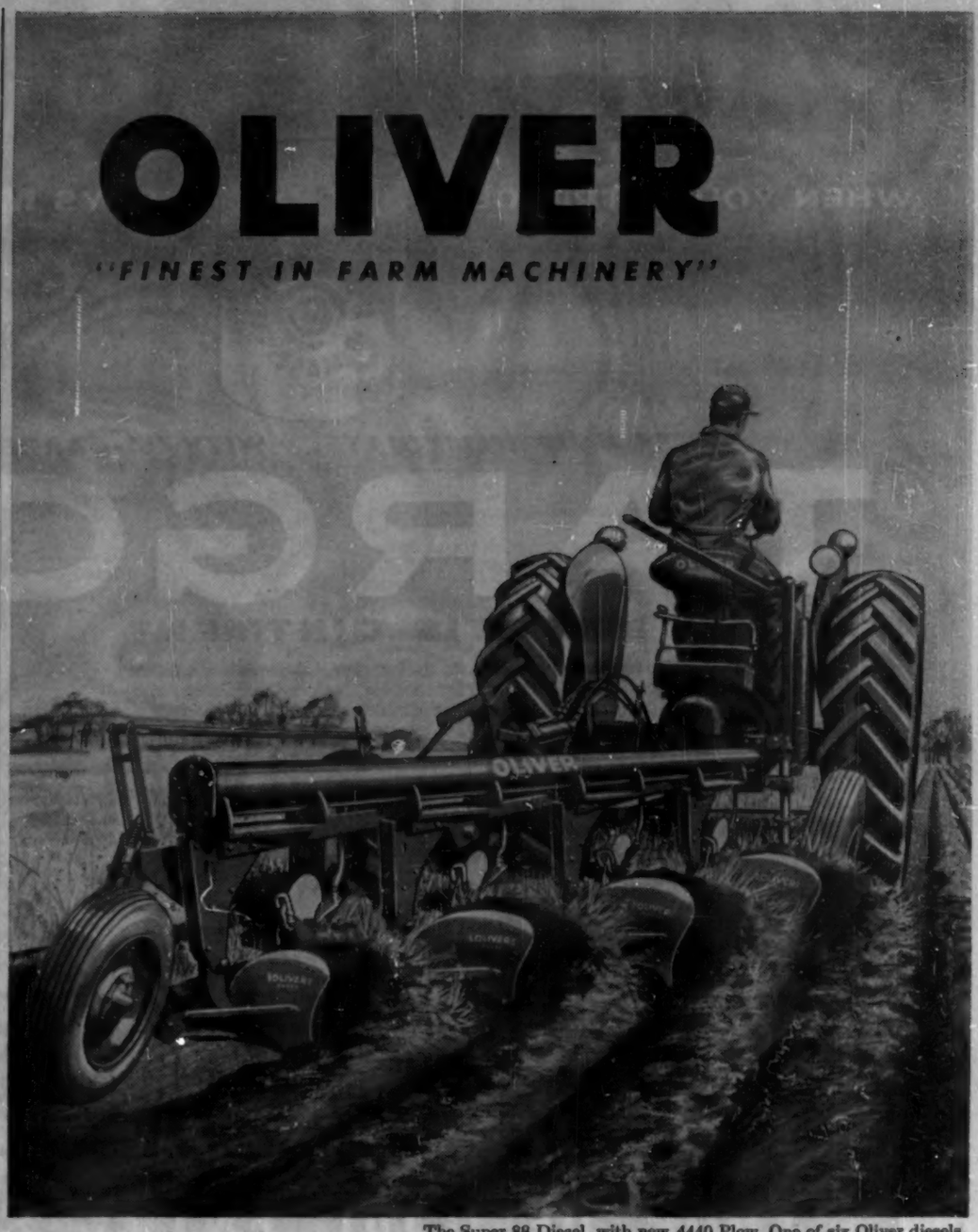
It is a simple matter to convert a gravity hot water system to a forced circulation hot water system with the advantages of quicker response, steady comfort and increased boiler efficiency. Additional capacity is made available for heating an extra room, or perhaps providing a thermal snow removal system for the walk from house to barn.

Select reliable contractor . . .

The first step in modernizing an existing central heating plant or installing one for the first time is to call in a reputable heating contractor to make estimates for doing the work.

His guide to quality equipment and assurance of the same are industry approvals attesting to boiler capacity, safety features and the like. Such approvals are given by the Institute of Boiler and Radiator Manufacturers, the Steel Boiler Institute, Underwriters Laboratories, American Society of Heating & Ventilating Engineers and American Society of Mechanical Engineers only to heating equipment which meets highest industry standards of performance.

The homeowner should look for the seal of approval on heating equipment supplied by the contractor. Boilers rated in accordance with the standards of the Institute of Boiler and Radiator Manufacturers are identified by the symbol "I-B-R". Boilers rated in accordance with the standards of the Steel Boiler Institute are identified by the symbol "S.B.I." These symbols will be found on the boilers and in manufacturers' catalogs and other literature. **THE END**



The Super 88 Diesel, with new 4440 Plow. One of six Oliver diesels.

Pocket 44¢ every hour!

That's the sort of fuel savings you can make with an Oliver diesel, doing this kind of work. Here's how it figures:

Pulling four bottoms, a gasoline tractor will burn some four gallons an hour. The Oliver diesel, about two and a half. What's gas worth where you live? And diesel fuel? At average prices, the saving comes to 44¢ an hour. With you, it might be less, it might be more—*a saving of two-thirds the fuel cost is not unusual.* Important, too, are the fuel savings on other farming operations requiring less power than plowing.

Another money saver, your Oliver diesel requires no extra engine for starting. No special fuel. Just step on the starter and go to work.

Size? Name it! Oliver—and *only* Oliver—offers you dollar-saving diesel power in all its wheel tractor sizes. Nor can any other diesel match all the Oliver features—features that save on upkeep, save on time, save on *you*.

Come in and see them, won't you? See your Oliver Dealer.

The Oliver Corporation
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OLIVER

YOUR OFFICIAL ENTRY BLANK

26th ANNUAL HOARD'S DAIRYMAN COW JUDGING CONTEST

1. Use this entry blank for single or family entries. (Those under 18 years, please state age.)
2. Do not send in entry blank until all five classes are placed.
3. Keep a copy of your placings . . . no entries returned.
4. Colleges, high schools, and 4-H clubs write for group entry blanks.
5. All entries in groups or families eligible for individual prizes.
6. Twelve cash prizes in senior and junior divisions. ($50-$25-$20-$15-$10-$7-$6-$5-$4-$3-$2-$1.)
7. Senior division . . . open to all 18 years or over.
8. Junior division . . . open to those under 18 on Mar. 17, 1956.
9. Three family cash prizes — $25-$20-$15. (Family must include 3 or more, all over 10 years.)
10. Four FFA and 4-H cash prizes—$50-$25-$15-$10. Special awards to winning college and vo-ag instructor.
11. Contest open to everyone except Hoard's Dairyman employees and members of their families.
12. All entries must be mailed on or before Mar. 17, 1956.

Age	Family Names	Holstein Placings 1st 2nd 3rd 4th	Score	Ayrshire Placings 1st 2nd 3rd 4th	Score	Jersey Placings 1st 2nd 3rd 4th	Score	Brown Swiss Placings 1st 2nd 3rd 4th	Score	Guernsey Placings 1st 2nd 3rd 4th	Score	Total

Each column headed "Score" and "Total" should be left blank. All entries must be mailed on or before March 17, 1956.

NAME..... P. O..... R. D..... State.....

HOARD'S DAIRYMAN ROUND TABLE

"We like bulk handling of milk"

(Continued from page 13)

with a large herd it was definitely a factor to be considered.

Hahn: There is no loss of milk when weighed in the milk house. With cans, 2 to 4 pounds of milk are lost per can. If a can tipped over, you would lose the top and there would go your butterfat. We have had a lot of experience in hauling our milk to receiving stations. Some producers use wax paper under the can lids and I have seen trash cans full of wax paper with cream running down the sewer.

Preston: We like having our milk weighed in the milk house. We are able to check our own milk weight and are able to determine production at each milking. We use this as a guide in our feeding and pasture program. We are assured that there is no loss to us through careless handling or through cream adhering to the container as in can handling. Once the milk leaves the tank, it becomes the property of the distributor and the producer's chance of loss between farm and plant is practically eliminated. I believe that possibly 10 pounds a day are saved by eliminating the loss through incomplete emptying of cans.

Miner: You know definitely how much milk you are to be paid for daily by having it weighed in the milk house. The milk is sold on the farm instead of at the milk plant. I think the loss from spillage is anyone's guess and would be small under normal conditions.

Ward: We know exactly how much milk we are producing when it is weighed in our own milk house. In this way, we can check on the hauler's measurements.

Hall: There is less waste and you can check your own weights with a measuring stick in your bulk tank. I think bulk handling saves considerable in weight loss due to the fact that milk cans were not completely drained when they were emptied at the processing plant.

Waterman: Some of the advantages of weighing milk on the farm are: It eliminates spillage between farm and plant, eliminates milk and cream sticking to cans when milk is dumped, and you are more certain of the correct weight as you can see it measured at home. I would guess that you gain ½ to 1 pound per can per day through bulk handling. On a 15- to 20-can-a-day herd, this would amount to 3,000 to 6,000 pounds of milk per year.

Bienapfl: We know before our milk is picked up what our weights are going to be. Our tank was installed two months prior to the tanker's first pickup. During that time we put the milk directly into the tank, measured the weights according to the tank's calibration, and pumped the milk into cans for the pickup. The hauler then took the milk to the processing plant where the milk was weighed again, showing a loss of from 80 to 171 pounds every other day when checked against the calibration on the tank.

Stover: By weighing the milk in the milk house, we know we will be paid for the milk produced. When sending it in cans, there was always the possibility of losing milk every day. I would estimate that we lost considerable milk every year. The bulk tank not only eliminated this loss, but raised our test about 2 points.

How long does it take to cool your milk?

Sharp: It is cooled down to 38 to 40 degrees immediately after the last cow is milked.

Sawyer: Our milk is cooled to 34 degrees 5 minutes after milking the last cow.

Hahn: Within 5 minutes after we finish milking, our milk is down to 38 to 40 degrees. Our tank cools faster than we can milk with four units. It cuts off while we are milking.

Preston: The first milking will take about 15 minutes. After the first milking, we reduce that by starting the cooler before milking time; in this way the milk will be at the desired temperature in less than 5 minutes after we finish milking.

Miner: It takes from ⅓ to ¾ of an hour to cool our milk down to 38 to 40 degrees after we finish milking.

Ward: When we have finished milking our 30 cows in the evening, which takes about 1½ hours, we find our milk cooled to around 45 degrees. After this it takes about ½ to ¾ of an hour to cool it down to 38 to 40 degrees. The morning's milk never reaches 45 degrees, so it takes less time to cool it down to 38 degrees.

Hall: In about an hour and a half our milk is cooled down to 38 degrees.

Waterman: Our bulk tank cools the milk down to 38 to 40 degrees in 1 to 1½ hours. The atmospheric temperatures seem to alter the length of time.

Bienapfl: The compressor is set to cool the milk to 38 degrees, and usually the milk is at that temperature when we finish milking.

Stover: It takes about 1 hour to cool our milk down to 38 to 40 degrees.

Has bulk handling lowered your bacteria count?

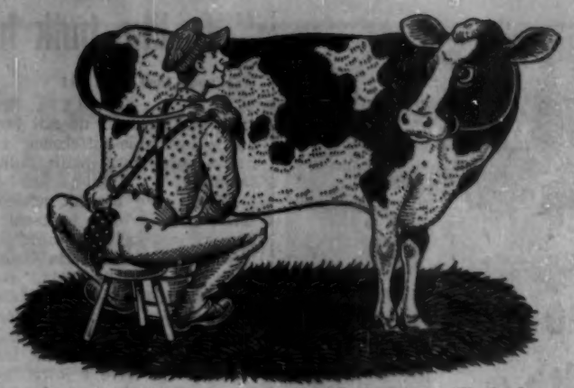
Sharp: It has been much easier to keep the bacteria count down with the bulk tank, mainly because the cans came back without being thoroughly cleaned and the help did not always clean them before using.

Sawyer: Our bacteria count has been consistently lower, and when there is a flare-up, we do not blame dirty cans. The bulk system puts the responsibility on us and as a result, we do not have much trouble.

Hahn: Our count has been lower, not too much, but some. If we stay under 10,000 per cc. we get a bonus from our dairy.

Preston: We have been fortunate in keeping our count below 10,000 both before we acquired a bulk

(Continued on next page)



Morton T-M Salt puts extra "gold" in your milk check

Morton TRACE MINERALIZED Salt for more milk, husky calf crop

ONLY a few extra hundredweights of milk per year will bring in enough to pay for about a ton of T-M Salt. Therefore, it is livestock insurance that costs you *practically nothing!*

College feeding trials conclusively prove the need for trace minerals in the rations of all livestock. Most farm lands are short of one or more of the essential trace minerals—**cobalt, iodine, iron, copper, zinc or manganese.** So feed Morton T-M Salt the year 'round to guard against mineral deficiencies . . . assure yourself of *more* milk, *more* meat, *more* wool and a higher return from each feed dollar.

The cost of Morton Trace Mineralized Salt over ordinary salt is less than 1¢ per animal per week. Feed it free choice, even if you feed a major mineral supplement. *You know they need it. They know how much.*

Always order Morton T-M Salt. It is the only kind you should use.

Less than ¼¢ more *Less than ½¢ more* *Less than 1¢ more* *Less than ¼¢ more*

MORTON TRACE MINERALIZED T-M SALT

At your feed dealer's—bags or blocks.

"I'm raising my calf on NATIONAL *No-Milk* CALF FOOD . . . pop says there's nothing better on the market!"

Generations of dairymen — young and old — know that National No-Milk Calf Food contains all the essential nutritive ingredients calves need to develop into sleek, sturdy herd replacements. Whether you raise one calf — or many — you can't buy a better calf food than National. Try it — you'll be glad you did!

See your dealer

NATIONAL FOOD COMPANY
Since 1885
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The man with a Louden equipped barn

makes feeding more profitable, has more time to enjoy life

He pitches down silage automatically—winter or summer — because his low-cost Louden "Master-Made" Silo Unloader is always ready to save man-killing hot or cold weather silage pitching. The Master-Made Silo Unloader ends dangerous, slippery winter silo climbing; cleans the silo thoroughly; pitches fluffy, palatable winter silage instead of frozen chunks; saves valuable time as it eliminates help problems.

And in the haying season—his economical Louden Hay Drier cures hay quickly and safely in the mow! He is independent of the weather and has more time to get other things done.

His Louden Hay Drier not only beats the weather; it improves hay quality because the cut hay is not exposed to damaging dew, rain or sun bleaching. Hay mow-cured with a Louden Hay Drier consistently grades better, makes valuable grain go further for more profitable feeding.

The Louden Hay Drier and Master-Made Silo Unloader are just two of the many economical, time- and labor-saving helpers that make farming business better for the man with a Louden equipped barn.

Send just a dime with the handy coupon for Louden's big new 96 page "Better Barns" book. The 10c covers mailing. Send today!

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41 West Court, Fairfield, Iowa • Branch, Albany, N. Y.
A subsidiary of Mechanical Handling Systems, Inc.

Send me the big new 96 Page "Better Barns" book. I enclose 10c for handling.

Name _____

Box, Route No. _____

City _____

State _____

"We like bulk handling of milk"

(Continued from page 31)

tank and since. I do not feel that any appreciable difference is made in bacteria count with bulk tank handling.

Miner: We haven't noticed any difference in our bacteria count since using our bulk tank.

Ward: Our bacteria count has been as low as 2,000, but averages around 20,000. We have noticed no great change in the count since we were doing a good job before changing to a bulk milk tank.

Hall: We have a lower bacteria count now than we had with cans.

Waterman: We have not had a high bacteria count for the past 3 years.

Bienapfl: There has been no change in our bacteria count.

Stover: Our bacteria count has remained about the same.

How do you clean your bulk tank?

Sharp: It is rinsed with cool water; then warm water and a cleaning solution are placed in the tank. The milker climbs into the tank and scrubs it. After it is rinsed with clean water, it is rinsed with chlorine water.

Sawyer: First, it is rinsed with clear water; then scrubbed with a long-handled nylon brush. Then we rinse it with a sanitizing solution followed with a cold water rinse.

Hahn: We use about 10 gallons of water with washing powder. Using a long-handled brush, we scrub the inside after the milk is drained off. Tank is rinsed with cold water and before milking we use 5 gallons of water with a chlorine solution to rinse out the tank. The outside of the tank is wiped off, using a cloth in each hand. It is rubbed well, which polishes stainless steel perfectly.

Preston: The driver rinses out the tank with cold water after he empties it. I clean the tank with cold water and a brush, then hot water with a detergent and another brushing. This is followed by a cold water rinse.

Miner: We close the outlet valve and cover the bottom of the tank with sufficient hot water for easy scrubbing with a long-handled brush. We use a cleansing and sanitizing agent in this water for scrubbing the tank, covers, agitator, and outlet valve. The outlet is cleaned with a round bottle brush. The whole tank is then hosed down with clean, cold water.

Ward: The trucker rinses out the tank with cold water after loading the milk. Before milking, it is washed and brushed with a warm detergent solution and then sanitized with a chlorine solution. It is allowed to drain well before milk is put into it.

Hall: The hauler rinses the tank. I put in about 10 gallons of hot water, with an approved cleanser, used according to directions; then it is scrubbed with a long-handled nylon brush. All removable pieces are washed in a washing tank. A special brush is used for cleaning the valves of the cooler. I draw off a pail of water, and with a short-handled brush clean the outside of the cooler. The wash water is drained, the tank rinsed, and then 5 gallons of cold water with a sanitizer added are put into the tank. The entire interior of the tank is swabbed and the solution drained off. It is then ready for the next milking.

Waterman: We rinse the inside of the tank with cold water under pressure. We use a brush to remove the milk not rinsed off. We scrub all parts of the tank with a warm germicidal solution. The tank is rinsed with cold water. It takes about ½ hour to complete the tank washing.

Bienapfl: After milk pickup, tank is rinsed with cold water. While still damp, it is sprinkled with 2 or 3 ounces of a sanitizing powder and brushed with a regular long-handled tank brush. It is rinsed and allowed to drain.

Stover: First, we flush it out with cold water. Then we scrub it out with warm, soapy water and flush it out with cold water containing a sanitizer.

What is your hauling cost?

Sharp: The cost has been a little less than ½ cent per load mile, or a total cost of 45 cents per hundredweight for a 110-mile haul.

Sawyer: The cost is about 38 cents per hundred. Our milk is hauled 105 miles to market.

Hahn: It costs us 21 cents per hundred as compared to 30 cents when using cans.

Preston: Our hauler charges 35 cents per hundred for hauling milk. It was the same with cans.

Miner: We started with our regular can rate of 32 cents per hundred, now with every-other-day-pickup, they reduced it to 26.5 per hundred.

Ward: When we started shipping bulk milk, the cost was 20 cents per hundred, but 6 months ago charges were reduced to 17½ cents.

Hall. The cost is 33 cents per hundred. The milk is hauled directly from the farm to the processing plant, which is a distance of 90 miles. They picked up our can milk for 5 cents per hundred less.

Waterman. We pay 20 cents per hundred for hauling milk. This is the same as we were paying for can hauling.

Bienapfl: It costs us 20 cents per hundred with a bulk truck. The cost was the same for can pickup.

Stover: Our cost has been 25 cents per hundred and we are only 15 miles from the plant. For can pickup it was 35 cents per hundred pounds of milk.

What problems have you had with a bulk tank?

Sharp: The only problem we had was when the electricity went off and there was no way to pump the milk into the tank truck. We were still able to milk by using a gasoline motor. We have corrected this by installing our own

"Well, I told you I know little about farming, Cousin Ed."

2¢ a day

—or Replacement Cost

How much to replace a cow? Would you spend 2c per cow per day for KOW-KARE to offset sluggish or "off feed" milkers, aid over-worked organs of heavily fed producers? KOW-KARE means better feed-to-milk conversion; also builds against freshening strains, helps assure stronger calves, continued high production. Modern KOW-KARE contains 4,000 units of powerful Vitamin "A" per ounce, Vitamin "D," minerals, tonic drugs. Latest research improvements. Used by successful dairymen for 50 years. Be wise — get KOW-KARE today.

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Avoid calves' scours. Get KALF-KARE. *Money-back guarantee!*

Write:

New FREE Cow Book

"Care and Feeding of Dairy Cattle." Helpful, illustrated, 24 pages.

DAIRY ASSOCIATION COMPANY
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SAVE 1/3... Buy 50 lb. Drum

Sell more — Sell quicker — Sell better. Use Hoard's Dairyman Classified ads.

GRAHAM SCHOOL

"An Exclusive School for Cattlemen"

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"There's a student near you, write for his name"

Burlington, Vt. .....Jan. 10-14
Vermont Hotel

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Kansas City, Mo. .....Feb. 14-18
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Chicago, Ill. .....Feb. 21-25
Maryland Hotel

Harrisburg, Pa. .....Feb. 28-Mar. 3
Wm. Penn Hotel

Denver, Colo. .....Mar. 20-24
Albany Hotel

St. Paul, Minn. .....Mar. 27-31
Ryan Hotel

Our Guarantee

After the student attends school and gives our instruction a fair trial and does not get satisfactory results, the Manager of this school will go to the farm and make the student successful. If the student is then not satisfied that he has had value received to his own satisfaction without any strings to it, the tuition and total traveling expenses will be refunded. The student alone is to be the sole judge.

tractor-driven generator plant.

Sawyer: We have not encountered any problems of any consequence with our tank.

Hahn: None whatsoever; it surely is the only economical way to handle milk.

Preston: We were without electricity for 2½ days because of the hurricane "Hazel" in 1954 and we lost a tank of milk. An auxiliary generator would have solved this problem.

Miner: We originally had a round measuring stick that was hard to read, but this was replaced with a flat measuring stick. This is much more satisfactory. We have had quite a few power failures this year, and we feel that a generator or other standby power is definitely needed on a farm with a bulk handling system.

Ward: Just once in 3½ years were we faced with a problem. The current was off for 24 hours and we were forced to cool the milk in cans in our water tank. A standby generator would be the answer to such a problem.

Hall, Waterman, Bienapfl and Stover: We have had no problems.

What is the future of bulk handling?

Sharp: Bulk handling and cans would be like comparing tractor power and draft horses on the present day farm. Any new dairy starting in business wouldn't consider cans any more than a new farmer would consider using a horse. Dairymen already in business should be looking forward to bulk handling as soon as it can be put in without causing a hardship.

Sawyer: I believe it is definitely here to stay and will eventually be universally used except by very small producers.

Hahn: When we started with bulk coolers, I predicted that in 5 years 75 per cent of the milk on the Washington, D. C., market would be bulk-handled. In 4 years we have 70 per cent with bulk tanks. When we started, only 1 distributor in Washington would take bulk milk. Today they all want 100 per cent bulk milk.

Preston: Bulk handling is growing rapidly in this area. We anticipate a reduction in hauling costs when a greater percentage of farmers use this method.

Miner: I think bulk handling is definitely the future way of the milk industry from producer to milk plant. There are some problems now and there will undoubtedly be more, but I am sure they will all be solved as in any progressive change.

Ward: I believe it is the coming thing. It won't be too long before all of southern Wisconsin will be bulk and I believe there will be a change to every-other-day-pickup.

Hall: Bulk handling, in my opinion, is the coming thing due to saving of labor, better quality of milk, and lower overhead.

Waterman: I believe that bulk handling is here to stay, and that as time goes on, more and more milk will be handled in bulk. It offers the possibilities of saving money to all concerned, the producer, the distributor, and the trucker. It also provides a better product for the consumer. The end result should be a higher return to the farmer.

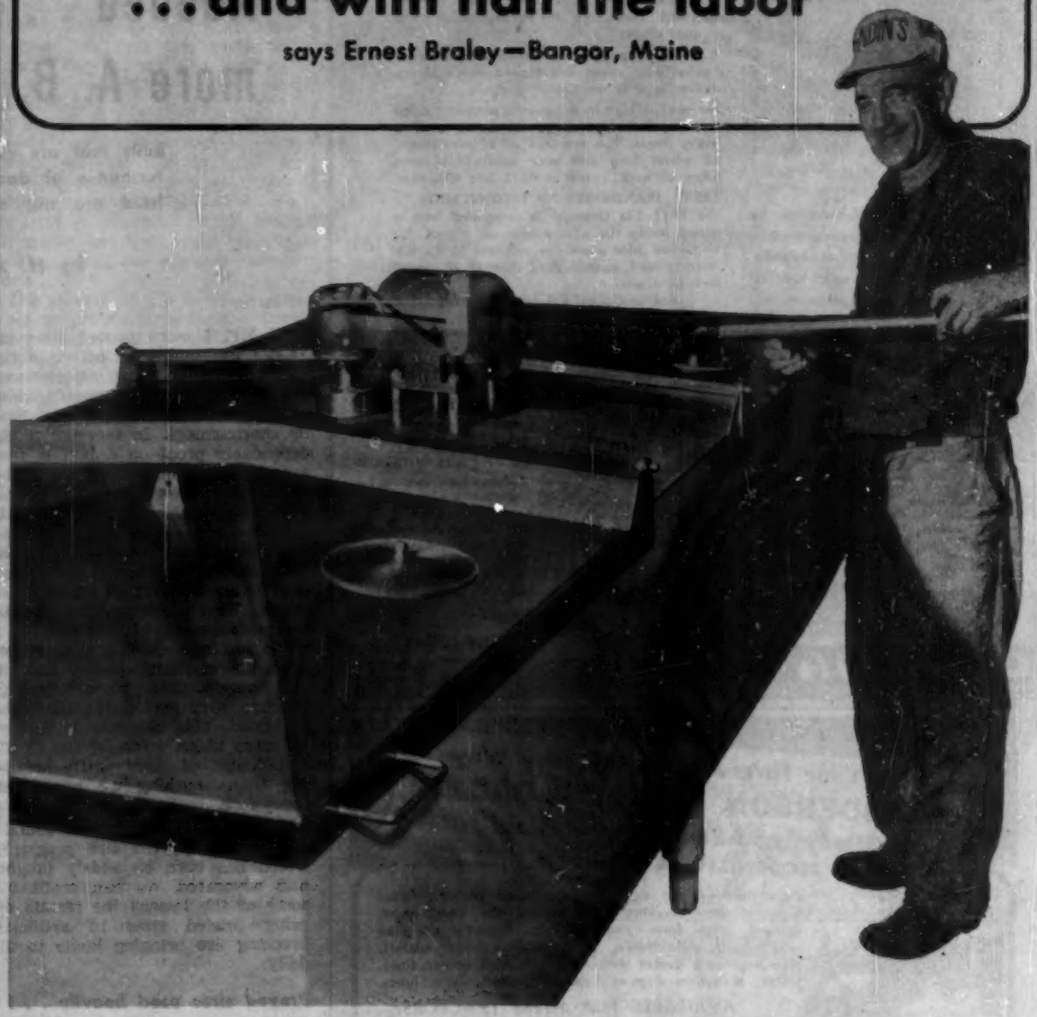
Bienapfl: The trend is definitely toward bulk handling, and justly so.

Stover: In our area, bulk handling of milk is here to stay.

THE END

"I get 26¢ per cwt. more for my milk using a bulk milk system ...and with half the labor"

says Ernest Braley—Bangor, Maine



Since he installed his 500-gallon, Stainless Steel bulk milk tank two years ago, Mr. Braley has averaged 400 gallons each pickup (every other day). The tank holds the milk at 35°, and it takes only about 10 minutes to transfer the milk from tank to tanker.

Mr. Braley says, "The bulk milk system has cut our milking time in half—from about 4 man-hours to 1½ man-hours. Now, it's a one man job with 40 Holsteins. We save 10¢ per cwt. on hauling alone (25¢ vs. 15¢). Butterfat runs about two points higher, so that nets an extra 16¢ per cwt. We also save quite a bit on stickage, and bacteria count is low."

Why not talk to your dairy about the many advantages of bulk milk handling? You make more money, the dairy makes more money, and everybody saves time and effort. It's the low cost, modern way to produce milk, and tanks made from USS Stainless Steel have been proving it all over the country. Send coupon for the free booklet that answers your questions about this money-making milk handling system.

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ARTIFICIAL BREEDING

Needed . . . more A. B. proved bulls

Bulls that are selected on the performance of daughters in a single herd are not always satisfactory.

by H. A. Herman

WITH more proved sires in use than ever before, artificial breeding associations are finding that the proof made on daughters in a single herd has its shortcomings. In fact the most dependable proof on a bull is the average **performance of his artificially-sired progeny.**

This is not unexpected and it doesn't mean that we can't depend on proved sires. It does mean that our proved sires are being used under a different set of conditions than where natural breeding is followed.

We are now dealing with more proved sires than we ever had in one group to date. We are finding out how they perform in all kinds of herds. This situation is telling us more about some of the "ins" and "outs" of dairy cattle breeding than anything we have had heretofore.

Rather than question the soundness of the proved sire program, which has been so widely taught and advocated, we can profit by some of the lessons the results of using proved sires in artificial breeding are bringing home to us daily.

Proved sires used heavily . . .

Breeding authorities are in full agreement that the only true breeding worth of a sire can be measured by "progeny performance". To know at least something about a sire's daughters takes some of the guess work out of the decision as to whether or not a sire should be selected. With so much at stake in sires used in artificial insemination, it is no small wonder that every breeding association is using from 30 to 100 per cent proved sires.

At present, there are about 2,450 sires in use, in the United States, by organized breeding associations. Of this number, 883, or about 36 per cent, are proved sires. This is largely "natural proof" based on their naturally-sired daughters, usually in one, but occasionally two or three herds.

These proved sires have an average of 11 daughter-dam pairs, which qualifies them under most definitions as adequately proved. Their daughters average 11,265 pounds of milk and 476 pounds of fat on a 305 day, 2x milking, mature basis. This is well above the average D.H.I.A. proved sire whose daughters average 9,611 pounds milk, 403 pounds fat on the same basis.

While an average of 1,937 cows are inseminated per sire in A. B., the unproved sires are used fairly lightly and the proved sires are used heavily with as many as 6,000 to 8,000 inseminations annually.

Natural and A.B. proof . . .

Natural proofs have been found to vary widely from the A. B. proofs assembled. The New York Artificial Breeders' Coop. and William Schaefer, Jr., Manager of NEPA Breeding Association of Tunkhannock, Pa., have compiled some interesting figures on this point, though similar comparisons have been made by many other associations with the same findings. Mr. Schaefer's findings, shown for 132 proved sires used for artificial breeding, are shown in the table below.

Now we don't need to turn any cartwheels or throw up our hands in horror at the fact these bulls didn't all deliver as expected. The fact is that: 50 bulls, or 38 per cent, sired artificial daughters within 25 pounds of fat of the natural proof; 8 bulls, or 6 per cent, sired daughters 25 pounds of fat above their natural proof, and 74, or 56 per cent, sired daughters 25 pounds or more below their natural proof.

This may be alarming to pedigree enthusiasts and statisticians, but it is really not a bad showing when we consider the facts. For example, many a purebred breeder has purchased a proved sire from another breeder (often at a long price) and his fondest hopes have been dashed when the daughters of this "wonder bull" freshened and completed records—yes, well below their dams. He says "Well, they didn't "nick".

Now this term of "nicking" covers a multitude of sins. Geneticists can't find any basis for accepting it. Either an animal has a preponderance of genes (charac-

No. of sires	Breed	Natural proof daughter-dam comparison			A.B. proof daughters ave.	
		Pairs	Fat	Difference	No. of daughters	Fat
			lbs.	lbs.		lbs.
90	Holstein	16	465	+39	154	425
24	Guernsey	11	411	+26	50	384
10	Jersey	14	448	+44	30	413
8	Ayrshire	10	406	+21	40	358

ters) for a given trait — or it hasn't.

All cattle vary in their inheritance. Some are good; some are poor; some average. It's like two brothers in a family. One is a gifted scientist or maybe a minister; the other could be a confidence man or a clever forger. Same inheritance, yes on paper, but not in reality because all matings represent a sampling process and some are gifted and others "miss the boat". This is called the **Law of Chance.** Neither people nor cattle can escape it.

Why aren't proofs accurate?

To this question the answer is obvious. First of all, the bull in the artificial breeding association is used on a random assortment of cows. There may be 500-pound producers and 250-pound producers as dams. Some are of good type; some are bad. In the herd where the bull was proved, he had fairly good, persistent-producing cows to work on. **"In and out" dairymen do not prove bulls as a rule.** It's the successful dairyman who proves sires and he culls the poor ones because he knows he's got to live. Power to him.

Second, there is environment, and it's a tough problem to evaluate. The naturally- proved bull has daughters in one or possibly two herds. They are fed and managed so they have a fair opportunity to demonstrate their inheritance. This means that the poor feeder never sells a proved bull because the artificial breeding associations look at breed averages and plus proof on the sires.

They don't dare try to sell paper. Hard-fisted dairymen won't buy it—they want milk in the pail!

In the artificial insemination program, however, a bull is used on all kinds of cows and in herds of varying management. Yet a few bulls stand out—the "Dean" bull used by New York Artificial Breeders is a notable example. He has over 1,070 D.H.I.A. daughters (a record number of daughters for any sire) that average about 476 pounds of butterfat.

What is the answer?

There are two possibilities and artificial breeding associations are using both.

One is to use young sires, mating them to a few hundred cows in random herds, until they are proved and then return the best to the bull stud for heavy use. This is the "young sire program" so well exemplified in Ohio and other states.

This program permits **selection among proved sires** and is meritorious because that is what we need. A proved sire is not necessarily a great sire. He must win his laurels on dams of all levels of production and under varying feeding and management conditions.

The second plan is to select preliminary proved sires with a very careful appraisal of their daughters and their dams, with reference to production and type as well as general feeding and management, amount of culling done on the daughters, and the general level of production within the herd. The sire is not used too heavily until he has 25 or more A. B. daughters. He is 6 to 7 years old when selected and it will be 3 to 4 years before he is A. B. proved. Nearly every bull stud has a few 10-to 15-year-old sires proved both "natural" and in A. B. work. They are usually the best sires available because they have survived the culling.

The weakness in this system is that a bull is too old for much service after he is proved under A. B. conditions.

It is our opinion that the "A. B. proved sire" is the best bet. His continued use in artificial breeding depends upon the judgment of the persons who evaluate the production and type of his daughters and appraise environmental conditions within the herd and the desirability of his progeny in general. Some sires failed to deliver under natural breeding and some will fail under artificial use. These should be eliminated as soon as the facts are known.

Never before have production records been scanned so closely. The poor-transmitting bull is being sent to the butcher. It represents a new approach and a new tool in dairy cattle improvement — the value of numbers in progeny and a leveling of environmental factors.

Six Bang's meetings

A series of six regional meetings will be held in late January and early February to receive testimony on the value and conduct of the national brucellosis program.

Recently a five-man advisory group was appointed to advise the Secretary of Agriculture on the accelerated federal-state program. After receiving written commentary, the group recently moved to schedule regional meetings to receive testimony firsthand.

The meetings will be held in Salt Lake City, Utah, January 23; Fort Worth, Texas, January 25; Omaha, Nebr., January 27; New York, N. Y., February 13; Atlanta, Ga., February 15; and Chicago, Ill., February 17.

State and national organizations affected by the brucellosis program will be notified of the time and place of the meeting in each region.

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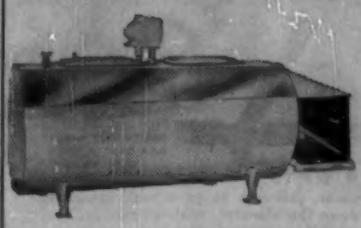

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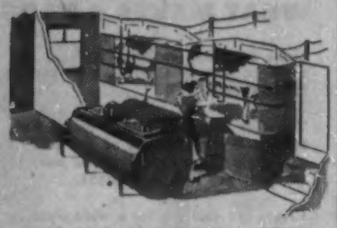

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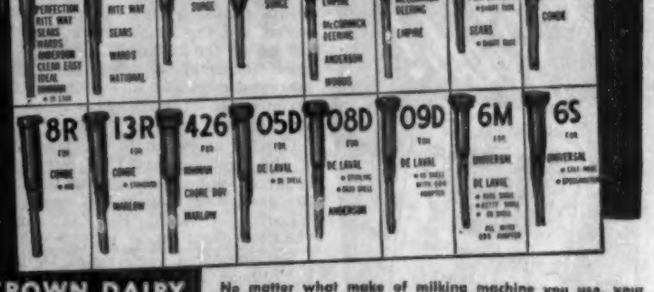

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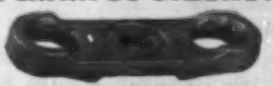

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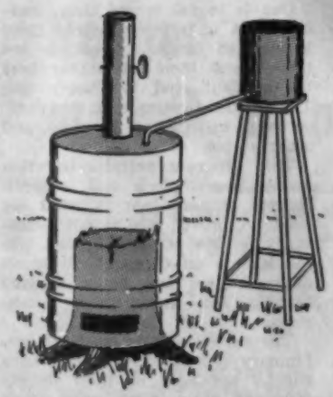
HANDY HINTS

STUMP BURNER



Clearing stumps from new land has long been a problem. But Harry Turk of Arkansas, solved it in a simple and inexpensive way. He burns them out with a stump burner.

Turk made his burner out of a 50-gallon drum that has one end out to permit placing of the drum over the stump. About 6 inches up the side of the drum from this open end, a 4- by 8-inch slot lets in air to the fire. A stove pipe and a small copper tube fit in the top of the drum.

The copper tube carries used motor oil that burns as it drips on the stump. Motor oil dripping is controlled by a hand valve. A damper in the stove pipe controls the draft.

A portable rack about 10 inches higher than the stove drum holds the container of oil. A flexible line carries oil to the control valve.

Arkansas. LEO CHANDLER.

KEEP VACUUM PUMP WORKING

Henry Rahrig, Indiana farmer and dairyman, has solved the problem of keeping his milker operating at top efficiency even in subzero weather. He installed an electric heat lamp above the vacuum pump of the milker and turns it on about 15 minutes before milking time.

Indiana. S. M. SCHWARTZ.

A GEAR PULLER

When I have a gear or sprocket which I can't remove from a shaft, I put a short piece of chain through the spokes and around the back of the sprocket hub. Then I take a hydraulic jack and set the head of it squarely against the end of the shaft. With the chain fastened to the sprocket and around the base of the jack, a few strokes of the jack handle removes the sprocket easily without breaking it.

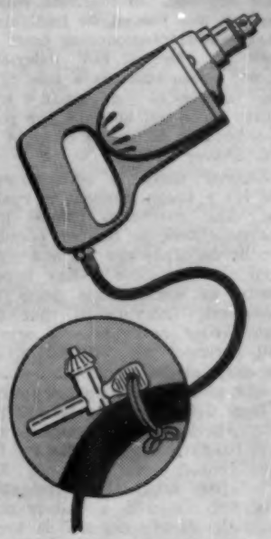
Wisconsin. MARVIN GENKE.

DRILL CORRECT DEPTH

Before you drill a hole in wood, place a rubber band around the bit at the depth you want the hole. This takes away the guesswork.

Iowa. FLORENCE LAUER.

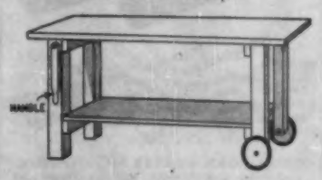
KEEPS DRILL KEY HANDY



You will never have to hunt for your drill key if it is fastened to the cord about 3 feet from drill handle. Drill a hole in the flattened side of the key for a ring or rubber band which closes around the cord. The ring or rubber band should be tight on the cord so that it does not slide.

Minnesota. ERNEST NELSON.

PORTABLE BENCH



How many times have you wished that you had a work bench and vise next to the piece of machinery you were repairing in the farmyard? Here is a portable bench with a pair of wheels from an old coaster wagon. You can pick it up like a wheelbarrow. This bench can be used on almost any repair job on the farm and still be the main bench in your work shop. It will save you hours of time doing repair work around the farm.

Bill of Materials

No.	Description	Dimensions
2	legs	4"x4"x35"
2	legs	4"x4"x31"
3	top	2"x10"x66"
2	bottom	2"x12"x42"
4	braces	2"x4"x32"
2	handles	2"x4"x24"
2	wheels	6" - 8"
20	carriage bolts	¼"x6"
8	bolts	½"x6"

Wisconsin. EARL DAVEN.

Ways to improve your landscaping

(Continued from page 14)

for the development of a plan is to first eliminate or relocate existing features and then add other features and plants that may be necessary.

The two sketches appearing on page 14 show how some features are handled. One sketch shows a plan of the grounds after unnecessary features were eliminated. Some of these features may pose a problem on your own farm.

In the first place the yard fence was found to be unnecessary. Its removal opened the area between the house and barn and made it possible to establish an open area between the drive and the house. An unobstructed view between the house and road was also created because of the removal of the fence.

The shrubs and evergreens scattered throughout the front lawn area were removed because the plants gave the setting a cluttered unorganized appearance. The long, narrow walk leading from the road to the front entrance of the house was also removed because the walk cut the area into two distinct portions. Removing the front walk did not interfere with mail pickup because the mailbox was moved next to the drive on the side away from the house. The new location makes it possible to use the drive as a walk and also puts the mailbox in a less conspicuous spot.

The fence between the house and garden was also eliminated because it ruined the proportion of the south lawn. The area was too long for its width. The narrowness of the area also prompted the removal of the garden. Another reason for deciding to move the garden was based on the desire to get features that were not very attractive located at the rear of the farmstead.

An example of how some buildings can frequently be relocated is illustrated by the garage. Its location between the house and barn would make it difficult to arrange for an efficient work area around the farm buildings. In addition, its small size makes it obsolete for modern cars. A glance at the completed landscape plan will show how the problem of locating a new garage was solved.

The only other features eliminated were a few trees and some of the shrubs that were scattered throughout the back and side lawn areas. The trees actually were not eliminated until a complete landscape plan was developed. All trees which were considered essential for shade and those needed to help tie the house in with the surrounding area were retained.

Make plan convenient . . .

Elimination of unnecessary features facilitates and simplifies development of a landscape plan. The finished landscape plan shows the results of planning after unnecessary details were removed. Actually there were no radical changes or additions.

The first addition to the plan consisted of a parking spur added to the drive. The spur was arranged so that visitors would be directed to the living room entrance of the house. It also was located in a manner which prevents the visitor's car from interfering with traffic in the main drive.

Another addition to the drive consisted of a definite traffic pattern around the farm buildings. It does not interfere with work activities and does help give the area a neater appearance. The grass island permitted the planting of a tree and some shrubs in an area which would otherwise be bleak.

The traffic pattern around the buildings could not have been arranged with the garage in its old position. However, some other arrangement could have been developed. Attaching the garage to the house also eliminated one building and thus helped simplify the setting. The garage was attached to the side to prevent its interfering with the view from the house to the barn.

Relocation of the garden to an area where it could not be seen from the road permitted establishment of a pasture up to the south side of the poultry house. Green grass makes a nice foreground for the side approach to the house.

The only other changes consisted of re-arrangement of some fences to facilitate access to the corncrib and to straighten out awkward looking angles.

Trees and shrubs were added to complete the plan. A few trees were placed around the house and in the front lawn area to balance the established trees. Others were added to the area around the buildings. They provide shade for livestock and machinery and help to reduce the bleakness and dominance of the buildings. The trees are not arranged in rows because straight lines tend to attract too much attention.

Shrubs were used to tie the house in with the ground and to provide interest to the setting. By grouping them along the front of the house and along the border of the fences and drive, open lawn areas were created. Large expanses of grass are needed to create a feeling of spaciousness.

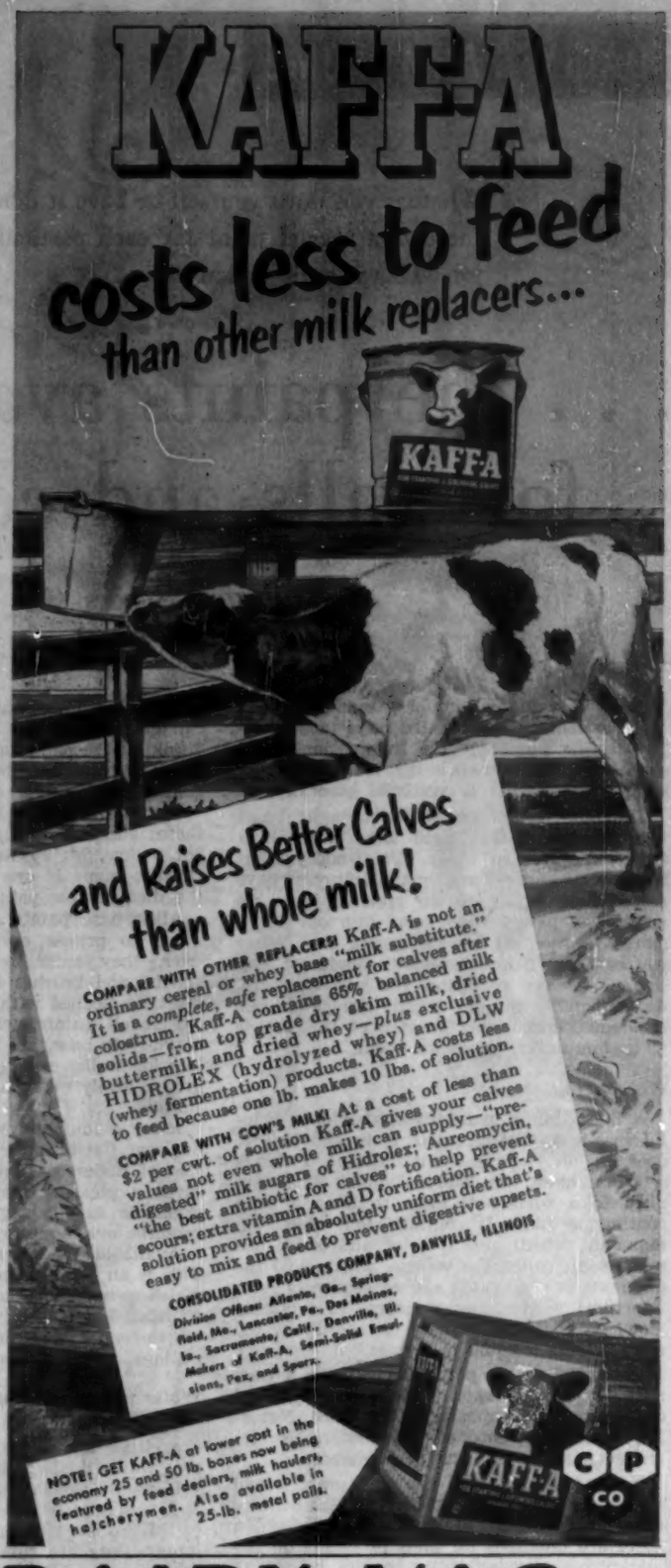
The shrubs actually divide the lawn area into the public, social, and service areas. The public area is that portion of the lawn that can be seen from the road. It is the area which is developed to create an attractive view to the house. The social area is the portion of the grounds set aside for outdoor living. A patio is often the seat of activity in the social area. The clothes line, incinerator, and other utilities are located in the service area.

Let your plan be your guide . . .

You can eliminate or add features to your own farmstead in a manner similar to that used for the improvement of the farmstead shown. When you make an appealing arrangement on paper, try to visualize what it would look like on the ground. Stake out proposed building, drive, and fence locations on the ground. If their arrangement is not both comfortable and pleasing, try another idea. Remember a plan is only a guide and a reference.

Make your landscaping plans on paper now. Make necessary changes before starting actual work. Plan to do a little landscaping each year and you will be proud and happy with the results.

THE END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DAIRY FARM HOME

Whether you do it yourself or have it done, there is a special paint for each particular job. This is a discussion of . . .

. . . the paints available for walls and ceilings

by Margaret Speers

—Photo courtesy Pittsburgh Plate Glass Co.

PREPARATION FOR PAINTING — including selecting the right kind of paint, proper readying of the surface, and thorough mixing—is more important than how the paint itself is applied.

PAINT manufacturers have made so much available to us that the mere task of selecting paint for the living room walls may be quite overwhelming if one has no knowledge of what is available generally.

The day was when people thought paint was paint, and they used almost any kind anywhere. Not so today. Paint-making has become a science and manufacturers have made their paints to do specific jobs. So many new paints have come into our retail stores in the last several years, that today you can buy paints especially made for any surface or any condition you can think of. Accompanying the new paints are new terms of identification. One purpose of this article is to familiarize you with them.

What is paint? . . .

A definition of paint itself should be helpful in understanding what it is and how it does its job. Here is one definition: "Paint is a white, black, or colored liquid. When applied to a surface it dries to form a solid continuous film. It contains four elements; pigments, which give it color and body; oils and resins, called the vehicle, which hold the pigments in suspension and subsequently form the film; solvents or thinners, to facilitate flow; and finally, driers to speed up the change from a liquid to a solid."

The difference in paints comes from a variance in the pigments, vehicle, solvents, and driers used in compounding the paint. Naturally what goes into a paint determines its characteristics, use, and performance.

Each manufacturer has his own brand names for his particular lines of paint. Since there are dozens of paint manufacturers, there are hundreds of kinds of paints on the market. However, all the paints belong to one of a few major families. These major families are: (1) the oil paints; (2) the enamels; (3) the water paints; (4) the varnishes; and (5) the lacquers. This discussion will deal only with the first three.

Oil paints most common . . .

These paints, perhaps the most commonly used, have an oil as the vehicle that holds the pigments in suspension. This family has a newcomer so far as the consumer field is concerned. This is alkyd-base paint. Alkyd-base paints have long been used in industry, but have been made for home use for only about two years or so. These paints are made with an alkyd resin base instead of an oil base. Sometimes the term "glycerol phthalate resin" is used; it is the long chemical term that means alkyd.

Alkyd-base paints are fast gaining in popularity and are considered superior in wearing quality to the older oil-base paints. The advantages over the older oil-base paints are these: alkyds are tougher, fade resistant, will not yellow, highly washable; they dry more rapidly (some in one hour) and do not have the disagreeable paint odor.

Alkyd-base paints are self-sealing and require no primer even on new work. However, they must be thinned with mineral spirits, and brushes or rollers used in them must be cleaned with the same materials.

Flat oil paints, whether with oil-base or alkyd-resin base, are highly recommended for interior walls, ceilings, and woodwork. They give a lovely mat finish that is pleasing and durable.

Many manufacturers offer the consumer a one-coat flat oil paint. It combines the qualities of undercoat and finish coat paints. It gives a pleasing mat finish, but is not as washable as the regular flat oil paints. It requires overnight drying.

Available, too, is flat oil paint undercoat. This is an alkali-resistant pigmented oil paint which primes and seals, serving as a good foundation for the finish coat of paint. It is recommended for unpainted interior walls, ceilings, and woodwork.

Water paints dry fast . . .

These are so-called because the ingredients are either mixed with or are soluble in water; water is the vehicle. Calcamine and casein paints are in this family.

A fairly new family member is the so-called "rubber" or latex paints. Rubber-base latex paints are thinned with water and are exceptionally easy to apply. All cleanup work, including brushes and rollers, may be done quickly with warm soapy water.

They are for the most part odorless and nontoxic. In addition to the advantage of a short drying time (a half hour or less), latex paints give a mat finish, have considerable hiding power, and are very washable after a certain "curing" time. They are not recommended for kitchen or bathroom use.

A few paint companies have made available within the past year a rather remarkable **new vinyl base interior** paint that is thinned with water and is soluble in water when wet. "Vinyl" is the term meaning that the vehicle used is a vinyl resin. It is for new or previously-painted plaster walls and ceilings, woodwork, wallpaper, wallboard, interior brick, and all other types of masonry. It will dry in about 20 minutes under normal conditions and has the advantage of being self-priming and easy to apply. It has a durable flat finish that is highly washable.

Not to be overlooked are the primer-sealers of the vinyl type. These are for unseasoned and previously unpainted interior plaster, acoustical tile, brick, concrete, cinder block, sheetrock, brick, masonite, plasterboard, wall board, and asphalt impregnated surfaces. They may be used also as an undercoat for previously-painted surfaces.

Primers of the vinyl type have positive hold out for all common types of latex, synthetic emulsion, and oil-base paints. They dry in one or two hours after application, which means that the finish coat can be applied the same day the primer-sealer is used. Only soap and water are needed for clean-up.

Use enamel in kitchens . . .

The third major family, enamel, has a **varnish** rather than an oil base, and the very best enamel is made with the so-called alkyd-resin varnish. It dries harder than most enamels made with an oil base. Enamel is extremely durable and can be used on wood, metal, plaster, or composition board. It withstands exposure to water and sunlight, and resists heat, oil, mildew, soap, and water. Its drying time is about six hours for the fast-drying types and overnight for others.

Because it will take grease and moisture and much rough wear, enamel is recommended for kitchens and bathrooms. Some of the oil and alkyd base paints are recommended for kitchen and bath also, and although durable, they will not stand up the way enamel does. This is also true on woodwork; the other paints discussed will be satisfactory on woodwork (window frames, doors, baseboards), but will not have the long range durability and washability of enamel.

Interior enamel comes in high gloss, semi-gloss, and flat finishes. The finish you select makes little difference so far as wearability is concerned. The high gloss has a smooth, shiny, tile-like finish; semi-gloss produces more of a satin sheen, free from glare. Your choice is largely a matter of how much sheen you like on your walls and woodwork.

Whichever type of paint you choose to use in your home, be sure to buy it from a reputable dealer who carries well-known quality brands of paint. Then follow the **manufacturer's specific instructions** for using it.

THE END

From Day to Day

by Lois J. Hurley

THE cold wind doth blow, today. Ice has not melted from the north kitchen window by noon. The only spot of color in the snow-bound garden is the Gardner crab, which keeps its rosy little apples all winter; all else is snugly asleep in borders and mounds, dreaming big dreams of a vigorous blooming season next summer, I hope.

Freckles is curled up in a taffy heap with his back to the register. He moans and barks in his sleep; can the cottontails (which he's never had the joyful privilege of chasing) be giving him trouble there in Dreamland? Kathy comes in from school with froze-y red cheeks. Hubby phones that he'll be late getting home for supper, for everybody's having trouble with their radiators. I give the soup a stir and settle down to write the first issue of copy for 1956.

I hope this will be a year when all your dreams come true, if they are worthy dreams. What is worthwhile? What is worth striving for? Everybody answers that for himself; individual goals depend on individual desires. Are wealth and possessions the answer? I doubt it.

I base my doubts on the word of those who have gained wealth and possessions. They have made them comfortable; they have added to their circle of acquaintances; they have placed them on a higher standard of living. But they, in themselves, have not seemed to add the great happiness you might think.

I like this story by way of illustration: A struggling playwright of our times gave his wife a bag of peanuts on their first wedding anniversary because that was all he could afford. On a card he tied to them he wrote: "I wish these were emeralds". Some years passed and success came, bringing wealth. The husband again gave his wife a gift . . . a bag of emeralds which he wanted her to have set into a bracelet. On the card he wrote, "Here they are . . . and I wish they were peanuts!"

The staff of life . . .

Bread is a pretty basic commodity in our food habits and let's talk about it a bit in this first-of-the-year column.

For one thing, bread making hasn't changed much in method since the Egyptians started making it in the year 2,000 B. C. They discovered that their wheat meal dough would rise and double itself when placed out in the hot sun on a rock; so started the making of leavened bread. Today we add yeast to accomplish the same result through fermentation when the yeast goes to work on the natural sugar in the wheat.

Our modern packaged breads have much higher nutritional value than what was made at home 50 years ago, say the nation's big grocery firms, who should know. The loaf you buy contains more milk, more shortening, more yeast, and more calcium. Enriched bread also contains the B vitamins, thiamin, niacin and riboflavin, and iron. So while it doesn't much resemble the home-made product our fond memory recalls, it may be better for us.

Applied appliances . . .

I'll wager that many of you got new kitchen appliances for Christmas and now you're wondering just what to do with them. They're so pretty and shiny and look so "gadgety"; will they ever settle down into really useful pieces of cooking equipment?

Being the creatures of habit we are, I'm sure we don't take the time to read the instruction books and really master the techniques of these new items as we should, but let's make a real good try, this year. I've never used the pretty deep-fryer I got a few years ago for anything but shrimp, potatoes, and doughnuts; yet I know it has a much larger potential. It will braise and roast, make stews and casseroles, and even bake biscuits. And its thermostat gives the controlled heat that turns out superior products.

Your new electric frying pan is just as versatile. And you know the cardinal rule for all women to memorize when they're starting to use a new appliance, don't you? "If at first you don't succeed, read the directions."

One thing that is going to encourage us to make wider use of new electrical appliances is sealing in the heating unit so the whole item can be doused in the dish pan for washing. That's the only thing I don't enjoy about my automatic coffee maker; I can't do a thorough job of washing it. Here's a new tip on cleaning and sweetening an automatic coffee maker, though. Put a tablespoon of baking soda in the full amount of water used for making coffee. Let the coffeemaker go through its regular cycle; empty and rinse in scalding water.

One Day To Live

If I had only one more day to live,
One day to walk among my fellow men,
How easy, then, to love and to forgive;
How foolish pride and wrath and envy . . . then.

My eyes would linger on each brother's face,
My lips would open but for praises kind,
My tolerance all mankind would embrace,
My love to every enmity be blind.

Oh, swiftly, swiftly, let me now explore
All ways to help, to love, encourage, give.
Time speeds . . . why did I not begin before?
Perhaps this IS the last day I shall live.

—Jean McLean.

Whether it is, or not, this little poem, from a yellowed page of my scrapbook, isn't a bad one to keep in mind as the days of the new year unfold, is it?

644. Ultra-smart spring suit and blouse are crocheted. The suit jacket is done in double-thickness yarn to give a bulky look, is lined and crocheted in a simple afghan stitch. Skirt is crocheted in single strand yarn. Blouse is a beauty done in silk organza ribbon which has a gold or silver stripe in it. Lovely enough to be married in. All instructions, lining tissue, for sizes 8, 10, 12, 14, and 16 included.

641. Nursery lamb pictures are crocheted in blue for background, cross-stitched in pink for lambs, trimmed with ¼-inch pink velvet ribbon, a few tiny blue velvet forget-me-nots and eight pearl beads. Pattern contains actual size picture chart, and all instructions.

633. Knitted in delicate blue, pink, or white and trimmed in a contrasting color, this small bonnet, sacque, and booties are inexpensively made as set requires only four skeins of baby wool. All instructions in pattern.

420. A complete guide to the art of crocheting—over 90 illustrations of both simple and complex stitches; how to increase, decrease knot, loop, rice, puff, cluster stitches; how to make circles, diamonds, squares, triangles. An invaluable reference guide you will always keep.

565. Bright knitted hat is done in any color which has gilt thread entwined in it, brown, black, plum, or any color you prefer. Knitting forms pleats; an elastic is knitted into last row at back so it is really head-hugging! Wonderful for travelling, too, as it folds flat into a half-circle. Complete instructions included.

639. Big fruit bowl decoration is all crocheted and stiffly starched to look like real wrought iron. Make it in black thread; use as a dinette wall decoration, a kitchen "picture", or an unusual church bazaar piece. Bowl and contents 15 by 21 inches; grapes, bananas, and cherries in proportion. All instructions included.

630

424. Four big, bold, colorful roosters are in bright scarlet and black color transfers which need only be ironed off onto place mats, napkins, buffet runners, porch pillows or guest towels. Four roosters are 5½ inches, eight are 2 inches each. Transfers, transferring, and laundering instructions included.

633. George Washington is most beautifully portrayed in this colorful cross-stitched panel done in red, white, blue, gold, and brown threads. Panel measures 12 by 17½ inches. Transfer, color chart, and instructions included.

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POULTRY

The price outlook for 1956

Egg prices firm for next few months; drop in fall. Broiler and turkey markets not as good as in 1955.

by W. P. Mortenson

WE HAVE fewer laying hens on farms now than at any time for six years, but production per bird is high. Even so, the total egg production is low enough so egg prices are reasonably favorable.

For the next few months, we can expect prices to be firm. Another thing in favor of poultry producers is that feed supplies are plentiful and feed prices will be on the low side in the months ahead.

This means that income from the poultry flock will be good enough to encourage liberal buying of chicks this spring and a large crop of pullets this fall. As a result of the expected large output beginning in late fall this year, egg prices will probably not equal last year's level.

Everywhere in the country egg production per layer is being increased. During the 25-year period, 1925-29 to 1950-54, production per layer in the United States was stepped up 60 per cent, from 93 eggs per layer to 148. (See chart)

The greatest increase in the rate of lay occurred in the North Central part of the country with an increase of 70 per cent. Production per hen in these states is now greater than in any area of the South or in the Mountain states and compares favorably with the West and Middle Atlantic areas. However, the New England states outstrip all others in rate of production with 173 in 1954.

In production per layer the entire South is the lowest of any area in the nation with the Mountain states next.

Feed costs down . . .

Feed is the largest cost item in producing either eggs or poultry meat. Supplies of feeds are at record high so prices in 1956-57 should be lower than they were in the year just passed. The best guess is that prices for poultry rations will be about 5 per cent lower during the next 12 months than they have been during the past year. Of course, prices the last half of 1956 will depend much upon the year's crop of feed grains.

Demand may slip . . .

We should not expect the 1956 demand for eggs and poultry to be quite as firm as it was in 1955. By and large, poultry and eggs will be in a somewhat more difficult competitive position this year than they were last.

During the early part of 1955 broiler marketings were reduced somewhat and as a result prices firmed up. Later in the year they were strengthened because of a reduction in normal marketings of farm chickens. Those price influences will probably not be repeated again this year. As it looks now, the 1956 supplies of all chicken meats will be somewhat above the amount of the past year.

Turkey growers ended with a better than average year. Because of the favorable returns many of them will expand production this spring. The larger number is all but sure to depress prices during this year's marketing season.

What we conclude . . .

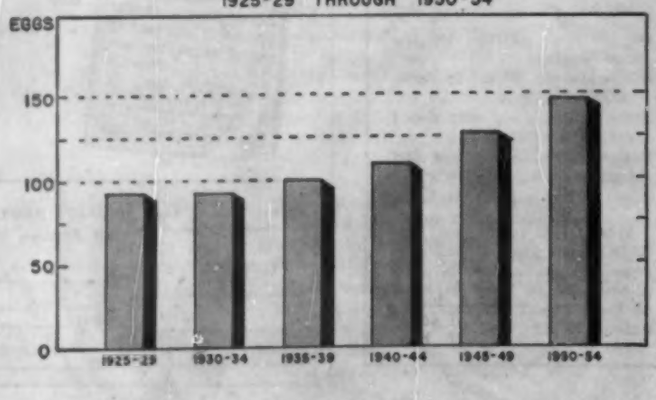
1. If the poultry flock made money in 1954-55, it would make sense to fill the laying house to full capacity in 1956. We will have a better year than 1954 but perhaps not as good as last year.

2. With improvement in labor-saving mechanical equipment and other labor-saving devices in the laying house, the larger flock will have an advantage over a small one. For those who have made a profit on 300 layers in past years it might be a good move to increase the size house and step up the number of layers to a profitable size of 500 to 600 birds.

3. Those who are planning to go into poultry production for the first time might do well to think it over carefully. It might be a bad year for a newcomer!

The author is an agricultural economist with the University of Wisconsin.

AVERAGE NUMBER OF EGGS PER LAYER DURING YEAR 1925-29 THROUGH 1950-54



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by R. H. Grummer

It takes both . . .

. . . correct breeding and proper environment for the production of good meat-type hogs.

MERIT or grade buying of hogs is being made available to more and more hog producers and the price differentials are being increased in some areas. All this adds up to a greater interest in producing the meat-type hog.

Here are a few ideas on which factors affect the production of meat-type hogs. There are two major ways to improve the kind of hog that we produce. One is through breeding (inheritance); the other is environment (feeding and management).

Only by breeding can we permanently change the kind of hog we produce. It is quite well established that swine type and factors affecting the carcass, such as size of muscling and thickness of fat back, are inherited to a rather high degree.

Many authorities believe that if a hog doesn't have the inheritance for heavy muscling, it can't be gotten by regulating the environment. They contend that even though feeding does influence the carcass in some respects, a true meat carcass can be produced only from a hog having the correct breeding.

There are not enough hogs of the correct breeding to go around, but rapid progress is being made to improve our hogs. Most of the breed associations are sponsoring and encouraging a meat-type hog certification program. Some of the agricultural college experiment stations are supervising and conducting swine testing programs. Packing companies are gathering carcass information on many herds. These agencies and others can give the swine grower help today in securing breeding stock that is of the meat type.

Any change that is made through environment has to be done over and over; it is not permanent.

A hog that is carrying the correct inheritance for meatiness can be ruined by improper environment and likewise a hog that is carrying incorrect inheritance can be improved by proper environment.

Here are some feeding and management factors that have an influence on the carcass.

1. **Protein.** Muscle is mostly protein, and a hog builds muscle tissue from protein in the ration.

A certain level of protein is necessary for maximum growth. Additional protein tends to make a hog more lean and less fat. For example, let's say an average of 12.5 per cent protein in the ration makes a hog grow fast. A 14 per cent protein ration doesn't increase the rate of gain, but it does increase the percentage of lean cuts and decreases the fat covering. Where hogs can be sold on the grade basis at a good price difference, it may pay a hog producer to feed more protein than is needed to get the maximum rate of gain.

2. **Restricted feeding.** Intentional slowing up of a hog's growth (using a balanced ration) produces a hog that yields a less-fat carcass than when a hog is full fed. This is true when a hog is allowed to grow at a fair rate. Two-thirds of a full feed, for example, causes a hog to develop more frame, a slightly longer body, and somewhat less fat.

Severe limited feeding (less than a half feed) is usually not advisable and probably has a harmful effect on carcass development. But it is a fact that a program of moderate restricted feeding does increase the proportion of lean to fat tissue in a hog, and causes more efficient feed use.

Some swine growers follow a practice of limited feeding during the early growing period followed by full feeding during the latter part. Research has shown that such a procedure produces hogs with more fat than when hogs are full fed during the entire period.

3. **Growing feeds.** Small grains and pasture are often referred to as growing feeds, and many people believe that meat-type hogs cannot be produced on a ration containing corn. There is little evidence to support this theory. However, it is true that oats alone will produce meatier hogs than when corn is fed as the only feed. Likewise, meatier hogs will be produced on a ration of 1,900 pounds of oats and 100 pounds of protein supplement than on 1,900 pounds of corn and 100 pounds of protein supplement. But — this happens because corn does not contain as much protein and other growth factors as does oats. Add enough protein and other nutrients to properly balance the ration and it shouldn't make any difference whether corn, wheat, oats, or some other grain is used. The important thing is to balance the ration; yes, corn alone does produce fat, so never feed corn alone.

Pasture may have an indirect beneficial effect because a hog has to exercise while foraging and exercise uses energy that otherwise would be deposited as fat.

4. **Delayed castration.** Boars usually have a leaner carcass than do barrows or gilts of the same weight. When castration is postponed until an age or weight when it will noticeably influence the fat to lean ratio, there are usually some harmful effects on carcass quality, such as dark color of the lean and coarse muscle fiber. Work at Michigan State University suggests that there might be a practical time to castrate boars so as to increase leanness without affecting carcass quality.

5. **Hormones.** Without a doubt, research findings will unveil some useful hormones that will help produce meatier hogs.

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BASIC FARM PRACTICES

Watch out for milk fever

MILK fever is a disease of dairy cows that occurs at or near calving time. The exact cause is still unknown, although we do know the mineral balance of the blood is upset. The calcium and phosphorus levels in the blood are lowered.

Fortunately effective treatments can be given, and usually the cow recovers with few if any after effects. The first successful treatment discovered was to inflate the udder with air through the teat opening and then tape the teats so the air stayed in the quarters. Later it was learned that injecting calcium salts into the blood stream also was an effective treatment.

Today veterinarians usually use this method because it is simple and you do not run the risk of mastitis associated with inflating the udder.

You should know the symptoms of milk fever, and call your veterinarian when it occurs. Milk fever does not occur in first-calf heifers, and is most commonly found in the Jersey and Guernsey breeds. It occurs most frequently in older and high-producing cows. Actually, the disease is misnamed. Rather than running a fever, the body temperature is below normal. Unlike most diseases it is not caused by a germ, but results from a physiological upset. Therefore, it is non-infectious. It usually occurs from within 1 day before to 3 days after calving.

Watch the cow for signs of unsteadiness in her walk; a quick, sharp shove on the hip is a good way to check for this. If she recovers her balance with difficulty, keep watching her closely. Feel her tail-head, hips and ears. If they are cool to the touch, her temperature is subnormal.

MILK FEVER may occur 1 to 3 days after calving. Watch for low temperature and unsteady gait.

As the attack progresses she will be unable to stand, and finally will go into a coma with the head retracted to the side of her body. This can all happen within a few hours, so call for treatment when definite symptoms are noticed.

If the veterinarian is not there before she goes down, prop her upright between two bales of straw so she will not bloat, and be sure to stay with her. Once treatment is given you will notice a quick recovery. She may be up eating in a couple of hours. However, keep close check because there is a possibility of relapse.

Milk fever is difficult to prevent. Massive doses of vitamin D shortly before calving may help. Recent work indicates some benefit from rations that are low in calcium and high in phosphorus.

—J. W. Crowley
—R. P. Niedermeier

Use heat lamp in cold weather

THE pigs which you farrow in winter or early spring need extra protection from the cold. This may be provided by heat lamps which you can operate economically.

It is a fact that about 35 per cent of the baby pigs farrowed die before weaning time. Most of these die during the first three days of life. Extra heat furnished by electric heat lamps has proved to be a practical means of reducing baby pig losses.

The newer reflector-type lamp has eliminated hover construction of the pig brooder. The 250-watt "heat lamp" is most commonly used. During milder weather, the 150-watt flood lamp could be used. Both of these lamps are made with the aluminum-coated glass reflector. When this type of light is used for heat, it should be protected from moisture with a metal reflector. The lamp is supported by the lamp cord from an outlet box. The lamp should hang at least 12 inches from any wall. The cord should be of such a length that the lamp hangs at least 30 inches from the bedding.

You can also use triangular-shaped hovers with a reflector containing an ordinary light bulb placed over the hole in the lap of the hover. The hover is usually placed in one corner of the pen. These are anchored to the guard rails about 12 inches from the floor and protected by an upright partition. This partition is placed above and even with the front of the brooder. Most county agents and vo-ag teachers can furnish you with plans for constructing this brooder. In this type of brooder, you can use an ordinary 100-watt light bulb which will furnish plenty of heat. In extremely cold weather use a 150-watt bulb.

You should always take precautions to eliminate fire hazards. Use 2-inch material fastened securely across the corner of the pen to keep the sow away from the brooder and heat lamp. Never use a 250-watt reflector-type lamp in a hover-type brooder.

—F. J. Giesler

BARNEY FARMLAN

"They can't scare me. I'm a match for them in any snow fight."

Dropping boards vs. dropping pits

YOUR laying house may be equipped with either a dropping board or a dropping pit under the roosts. Dropping boards must be scraped at least 3 times a week to remove the droppings, which are collected in a suitable container and taken out of the house.

After scraping, cover the boards lightly with hydrated lime, phosphate, or sand. In winter these materials keep the droppings from freezing to the boards. You should have the roosts hinged to the back wall so they can be tilted up to make it easier to scrape the boards. You don't want the pullets to get their feet dirty by walking on the dropping boards, so fasten some 2-inch wire netting to the under side of the roosts.

Some poultrymen save labor by taking out the dropping boards and providing dropping pits under the roosts instead. These require cleaning only three or four times each year. They are usually not pits at all, but enclosed areas under the roosts.

They are enclosed with boards to a height of 10 or 12 inches above the floor and with 1- by 4-inch wire mesh between the boards and the roosts. The floor in the pit is covered with about 3 inches of litter. In warm weather, you can add about a pound of borax per bushel of droppings to discourage flies.

—H. R. Bird

Lets kill those rats

THE national "clean grain program" has stimulated greater interest to prevent rat and mouse filth in stored grain. A recent report by the Federal Food and Drug Administration showed that rat and mouse filth in stored food grain was several times more important than insect infestation in the grain.

Carloads of wheat are being condemned as unfit for human food, so farmers and others are taking losses of 65 to 95 cents per bushel because of the rodent filth.

What's the picture ahead? This same Food and Drug Administration also announced that the tolerance of rat and mouse filth in wheat will be only half the present amount, beginning July 1, 1956. Their figures show that if this lower tolerance had been in effect last year, they would have condemned nearly three times as many cars of wheat as were caught.

Many 4-H and F.F.A. groups have conducted rat and mouse control programs. These have helped countless farmers to realize that control of these pests is possible, safe, and economical. Rats and mice not only damage food grain, but also cause heavy losses of feed grain, poultry, and others.

Possibly your 4-H club agent or vocational agriculture instructor has received a kit which will help you and other members of your group to qualify for individual and group awards in a national rat and mouse control

See Page 18

program. It's the fifth annual program, sponsored by the Wisconsin Alumni Research Foundation at Madison, Wisconsin, and it's different than ever before. Here is your chance to: (1) be of service in a good cause, (2) become better acquainted with a farm problem, and (3) earn valuable awards and recognition.

Incidentally, it is still felt that warfarin is the choice rat and mouse killer for the farm. Now we have water-soluble warfarin to use along side the cereal-type bait as an extra attractant, where needed.

Remember to inquire about the national rat and mouse control program. Write to: Educational Department, Wisconsin Alumni Research Foundation, Madison 1, Wisconsin.

—E. H. Fisher

DAIRY DIGEST

ENOS PERRY RETIRES

Enos J. Perry, extension dairy specialist at Rutgers University since 1923, retired on January 3 and will immediately begin a two-year assignment in Egypt with the International Cooperation Administration.

A graduate of Pennsylvania State College in 1916, he was a Pennsylvania county agent and dairy specialist in West Virginia before joining the Rutgers staff. He is known internationally for his work in artificial insemination of dairy cattle. He helped establish the first artificial breeding cooperative in this country, following a study of breeding cooperatives in Denmark in 1937.

DR. GEORGE HOLM DIES

After a career of 35 years in dairy research with the United States Department of Agriculture, Dr. George Holm, 64, died of a heart attack in Washington, D. C., November 11. He had retired September 1.

A native of Minnesota, Dr. Holm joined the Bureau of Dairy Industry as a chemist in 1920. He was the recipient of many awards in the field of dairy chemistry, including the Borden Award in 1942, and the Superior Service Award of U.S.D.A. in 1948. Twice he represented the United States at the International Dairy Congresses in Berlin in 1937, and in Stockholm in 1949.

EDITORS HONOR KILDEE

The American Agricultural Editors' Association presented H. H. Kildee, Dean Emeritus, Iowa State College, with the annual Distinguished Service Award for outstanding service to agriculture at their annual meeting held in Chicago late in November.

Recognized internationally as an educator, extension director, research leader, and judge of all breeds of livestock, Kildee has exerted tremendous influence in educating dairy leaders.

He serves on numerous type and judging committees, is the author of numerous publications on feeding, breeding, and management of livestock, and also on land use planning.

NINE FARM BUREAUS HONORED

Nine state Farm Bureaus which have done outstanding jobs during the past year in promoting increased sales of dairy products received special awards at the annual meeting of the American Farm Bureau Federation.

The states are Alabama, Illinois, Maryland, Minnesota, New Mexico, Ohio, Tennessee, Vermont, and Wisconsin.

The nine states were singled out for effective dairy promotion efforts in connection with a national dairy sales promotion program conducted by Farm Bureau.

This is the second year the American Farm Bureau Federation has sponsored nation-wide dairy sales promotional activity. The program involves work with the retail food trade, restaurants, schools, dairies, dairy promotional organizations, and other groups.

"Saved me $500 in fuel the first year!"

says Henry Marklowitz, South Haven, Minn.

"My Fordson Major Diesel Tractor saved me over $500 in fuel the first year I used it," says Henry Marklowitz, "and that was from farming 300 acres of land. It's hard for my neighbors to believe how much I save on fuel over their tractors, but I've got the facts."

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—*J. L. Coder, Elwood, Neb.*

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—*Elmer Elofson, Wheaton, Minn.*

BETTER ON SOFT GROUND—"It keeps going surprisingly well on soft, wet ground. I got my corn picked on time, but my neighbors had to wait until the ground froze."
—*Ralph Douglas, Broadhead, Wis.*

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NATIONAL 4-H DAIRY WINNERS, from left to right are: Christopher Little, North Marshfield, Mass.; John F. Taylor, Trout Creek, Mont.; Shirley Ann Major, Loyal, Okla.; D. W. McVey, vice-president, General Mills; Gwendolyn Bentz, Chico, Calif.; John E. Johnson, Meridale, N. Y.; and Donald Zittlow, West De Pere, Wis.

National 4-H dairy winners

AT THE 34th National 4-H Club Congress held in Chicago November 27 to December 1, six national dairy winners were chosen. They each received $300 scholarships and the 48 state winners received all-expense trips to the Club Congress. The awards were made by the Larro SureFeed Division of General Mills.

The winners are: **Gwendolyn Bentz**, 19, of Chico, California. She started a 4-H dairy project in 1947. Today she has 28 registered Holsteins and 2 grades. Fifteen are milking and on test. The herd has helped her through the first year at Chico State College, and is a leading source of income on the 75-acre family farm.

Christopher Little, 18, North Marshfield, Mass., joined 4-H 9 years ago when his father, a dairyman on 129 acres, gave him a Jersey heifer calf. Each year thereafter Chris repeated the project, receiving feed in exchange for work he did on the farm. Prize money was put into a fund for his education. Now a high school senior, Chris plans to enter college.

John F. Taylor, 17, Trout Creek, Mont., joined 4-H about 8 years ago when his parents offered him a Jersey heifer. He won a blue ribbon and the showmanship contest at the next county fair. He has helped many other boys get into club work. He is now a freshman at Montana State College.

John E. Johnson, 21, Meridale, N. Y., has, in 10 years of 4-H work, built up a small but efficient dairy business and taken over the operation of the 312-acre farm of his parents. Following a year and a half of study in agriculture at Cornell University, John formed a partnership with his father to give closer attention to his 10 registered Jersey cows and young stock. From his start of showing at the county fair, he has moved into state and national events.

Shirley Ann Major, 17, Loyal, Okla., began a dairy calf project in 1950 to build up a college fund and provide the family with milk, cream, butter, and cottage cheese. Out of her prizes and project savings she has acquired 6 cows, 4 heifers, 3 bull calves, and a herd sire. Her achievement was realized in the face of drouth and the necessity of buying feed. Shirley became a respected rival in shows, won 27 championships and many other awards, and was named outstanding county and state dairy member. She is a senior in high school and plans to attend college.

Donald Zittlow, 19, West De Pere, Wis., has 8 years in 4-H. He started his dairy career with a bull calf which his father, a dairyman on 106 acres, gave him to raise. Donald got 60 per cent of the sale proceeds, paid his feed bill, and bought a heifer calf for another project. He paid for feed with work until the heifer freshened; thereafter milk checks financed his annual projects so that today he has 7 registered Holsteins. Donald was valedictorian of his graduating class in 1954 and hopes to go to college.

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MARRIED, lifetime dairy experience, desires position as Herdsman. Salary or percentage. LOUIS DINGLEY, Wisner, Louisiana. 24-3

HOLSTEIN Herdsman — Middle aged, married, life time experience in herd management. Agr. College, Graham graduate. Permanent, modern set up only. Midwest preferred. Would consider institution. BOX 622, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 1-2

HERD Manager. 10 years experience in production and testing, showing, can collect and freeze semen, do artificial breeding. Have managed one of the nation's top herds for four years. Must move because of daughter's health. Best of references. Non drinker. BOX 620, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 1-2

FARM Manager or herd manager. Lifetime experience, small family, best of references. BOX 651, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

HELP WANTED

WANTED—Hand test cow milker for purebred Jersey herd in eastern North Carolina. Married man with small family desired. Write BOX 609, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

SINGLE Man—Modern dairy farm, good home, all conveniences, steady employment. References required. OSTLAND FARM, Rt. 3, Elkhorn, Wisconsin. Phone: East Troy 195.

WANTED—Experienced Herdsman who thoroughly knows registered Holsteins. Strictly modern farm buildings including tenant house. Located in southern Michigan. Near schools and churches. Good opportunity for qualified man. Write previous experience, age and family to BOX 624, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 1-2

WANTED—Farm Manager for 500 acre dairy farm in Michigan. Capable of taking full responsibility. Must be experienced with registered Holsteins, crops and machinery. Modern home with all conveniences and nice surroundings. Top salary. State all details fully. Replies confidential. BOX 623, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 1-2

EXPERIENCED farmer to take complete charge of field work and farm equipment on large farm. Modern house close to town, churches, schools. Good starting salary, must know how to handle help and get production. Give complete details and background. BOX 626, care Hoard's Dairyman, Fort Atkinson, Wis. 1-2

EXPERIENCED working herdsman on large Dairy farm with all modern equipment. Must be good herdsman, assume full responsibility for operation and other help. Modern house, near churches, schools. Give complete details and background. BOX 625, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 1-2

EXPERIENCED cow man, good references. Modern seven room bungalow. Close to church and school route. Share basis. Bulk tank. 50 cows. WEISIGER LUMBER COMPANY, Blackstone, Virginia.

DAIRYMAN—With enough family help to farm 163 acres northeastern Illinois. Modern house, $300 monthly and bonus. Write full details. BOX 628, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 1-2

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WANTED — Experienced inseminators, familiar with American Breeders Service Program. Only those wishing to breed a lot of cows in central California need apply. References required. Write to BOX 627, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

HELP WANTED

WANTED—Single man on modern Ohio River Valley dairy farm. Registered Holsteins, some field work. Must be handy with cows, sober, steady. References. Good home, top wages. LESTER JORDAN, Gallipolis Ferry, W. Va.

EXPERIENCED Farm Manager — To supervise and operate modern 450 acre irrigated New Mexico Dairy Farm, milking commercial herd of 400 Holsteins. Located in the Rio Grande Valley adjacent to large thriving city. Comparable experience or degree in Agronomy or Animal Husbandry is necessary. Excellent climate. Attractive living quarters, furnished on location. Company profit sharing and retirement plan available. Salary open to right man. Apply by letter stating qualifications to BOX 630, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

"OPPORTUNITY in sunny Mississippi." Manager wanted for 125 cow dairy. House furnished, salary, bonus, vacation. On school bus route—near town of 15,000. New buildings and equipment. Proven herd producing Grade A raw milk. Give experience, training and reference. Write BOX 3404, Memphis 17, Tennessee. 24-4

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NEW Plastic Mending Tape. Just press on! Repairs clothing instantly. Lightning seller. Samples sent on trial. KRISTEE 116, Akron, Ohio.

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SAVE income tax money on farm operation, auction, farm sale using the Badger Farm Business Record; income tax authorities approval; one book, life time purchase; loose leaf system; important transactions permanently recorded; simple; illustrated; cash and accrual basis; inspection with refund guarantee; $3.00 postpaid. BADGER BUSINESS SERVICE, 1620 Jackson, La Crosse, Wisconsin. 23-*

To offset lower prices . . .

by W. R. Hesseltine

YOU, as a dairy farmer, milk cows to make money. And the lower the price for milk the harder it becomes to pay the bills and have something left over.

Dr. S. W. Warren, professor of farm management at Cornell, used to tell his classes that farming could well be likened to a sailor at sea. When the sea is calm, most every sailor can pilot his boat safely to port. During a storm, however, it takes a good sailor to guide the ship safely to its harbor.

These are stormy days for dairymen.

To net $6,000 over feed . . .

Let's see, first of all, what production it takes to make $6,000 above feed costs. If your taxes, insurance, and building upkeep costs amounted to $1,500 a year, there would be $4,500 left for you to live on.

In 1952, with $4.50 milk, a herd averaging 8,000 pounds of milk returned $360 per cow. If each cow had three tons of hay (or its equal in silage) at $25 a ton, roughage costs would be $75. Five months of pasture at $5 a month would add another $25, and a ton of grain at $75 would make a total of $175. Thus profit above feed costs would be $185 a cow ($360 less $175). Dividing $6,000 by $185 we find it would take 33 cows to return $6,000 above feed costs.

Today it's a different story, isn't it? Milk is $1 less a hundred, or about $3.50. An 8,000-pound herd would bring in only $280 per cow, rather than $360. Feed costs have stayed about the same, so $280 minus the $175 feed costs would leave an average profit of $105 a cow. Dividing $6,000 by $105, we see that you now would need 57 cows in order to make the $6,000 above feed costs.

You, as a dairyman, with some family help, could about take care of the 33 milkers needed to make the $6,000 back in 1952. But to take care of the 57 cows, necessary under present prices, would perhaps be out of the question. What, then, can you as a dairyman do? There's only one answer.

You've got to be a better "sailor." And this means to increase milk production per cow. To obtain this increase there is no one answer for all herds. In brief, it means better breeding, plenty of early cut forages, top-notch cow care, and proper milking methods.

How many cows to milk?

Under present conditions how much milk must your 33 cow herd average to make the $6,000 above feed costs? If the higher-producing cows each ate 500 pounds additional grain, your costs per cow would go up nearly $20, or to a total cost of $195 per cow. If you must show a profit above feed costs of $185 per cow, you need to sell $195 (feed costs) plus $185, or a total of $380 worth of milk from each cow. Dividing this $380 by $3.50 a hundred for milk, we get about 10,800.

Thus to make the same amount of money you made in 1952 with 33 cows producing 8,000 pounds of milk, in 1956 you would have to average 10,800 pounds per cow with the same number of cows.

This type of progress is very possible, but certainly higher production does not come without some thought and application of modern methods of dairy farming. Pure luck cannot be depended upon to increase milk production per cow by nearly 3,000 pounds. You must make use of every available means to develop a higher-producing herd. There is perhaps no one single answer to how this should be done in your herd. It is more than likely that production could be increased by adopting improved practices in several places. To start your thinking along such lines, ask yourself these questions:

1. Does each cow get all the high-quality forages she can possibly eat every day for 365 days a year?

2. Do you have adequate records on each cow? Does each cow get an eight week's dry period, and does each cow produce her share?

3. Are you using artificial breeding or scientifically selected herd sires?

4. Is a topnotch job of milking being done? Poor milking methods are frequently the weak link in the entire chain.

Why not talk your production problems over with your county agricultural agent, or with a dairyman who has developed a high-producing herd? It's no disgrace to have a low-producing herd — it's easier to show improvement, and this is a satisfying experience, too.

a good cow produces 10 times her own weight in milk each year!

Marlu Milady's Fashion produced 17,496 lbs. milk with 829 lbs. fat — nearly 21 times her own weight in milk during her first lactation! She is an extraordinary Jersey, but in comparison with other dairy cows Jerseys give extraordinary performance on the body weight basis.

It is not at all uncommon for entire registered Jersey herds to produce annually 10 or 12 times their body weight. This is a real test of efficiency and profit. You can have this profit and efficiency on your dairy farm with registered Jerseys. See your Jersey neighbors for registered breeding stock. Subscribe to the JERSEY JOURNAL for information about this breed that makes more profit per acre.

☐ Please send me free literature on the Jersey breed.
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1521 East Broad Street, Columbus 5, Ohio HD-156

Name_____

Address_____

Post Office_____ State_____

AMERICAN DAIRY PRINCESS, Ruth Marie Peterson, Minnesota, and Clayton Moore, the Lone Ranger, toasted each other in milk at the American Dairy Association's fall executive committee meeting in Phoenix. The Lone Ranger, on ABC-TV, is the newest television program sponsored by the American Dairy Association.

More schools in milk program

It is reported by the United States Department of Agriculture recently that 58,516 schools have been approved for the special school milk program, or had applications pending. This is a 41 per cent increase over the 41,460 schools taking part in the program last year.

Agriculture Secretary Benson said, "The large increase in the number of schools taking advantage of the program this year indicates how valuable school officials consider it to be in making more milk available to children. It is especially noteworthy that many of the additional schools entering the program are large city systems — such as St. Louis, Kansas City, and Los Angeles."

Last year in its first year of operation, the program resulted in an increased consumption of 451 million half pints of milk in participating schools.

The program makes it possible for schools to make more milk available to children at lower prices by reimbursing the schools for a part of the cost of all the additional milk they serve. A maximum reimbursement of 4 cents per half pint may be paid for all milk served as a separate item, in addition to the half pint regularly served with type A or B lunches by schools participating in the national school lunch program. For all other schools, the maximum reimbursement is 3 cents per half pint.

Most dog ear diseases begin as simple irritations and seem to be more common in dogs with floppy ears. Early, accurate diagnosis and treatment usually stops what could develop into serious trouble.

Sales Announcements

Jan. 23—Holsteins. Complete dispersal of the late Joseph Hilgenberg herd, Charleston, Illinois. Clem Hilgenberg, Route #4, Charleston, Ill.

Feb. 18—Holsteins. John Spanton & George Dutton dispersal. Clinton, Wis. Sale managed by Piper Bros., Watertown, Wisconsin.

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Fort Atkinson, Wis.

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Wonderful hunting companions both afield and in heavy duck marshes. Efficient, willing, hard working. Fine with children. Write for new booklet and name of nearest breeder.
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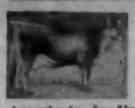
BROWN SWISS



What Makes a DAIRY BREED

America's leading farm dairymen, livestock breeders, and dairy officials of agricultural colleges are today universally agreed on two facts which have greatly affected the development of the Brown Swiss breed, and always will so affect it. These facts are:

(1) The usefulness of any dairy breed is determined by how well that breed meets the demands of the American system of agriculture.

(2) Any breed of livestock to remain useful must be hardy, rugged, long-lived, and capable of reproducing its kind.

To a remarkable degree the Brown Swiss meet these requirements of a useful breed of cattle.

For more information about the breed write:
BROWN SWISS ASSOCIATION, Beloit, Wis.

HYCREST PATRICK Born April 13, '55, by a son, from a granddaughter of Bunter Louise J. B., "E", with 170,761# milk, Lifetime Producer.

HYCREST LICK LICK, Patrick's dam, 5th in '55 All-American Swiss Futurity. Has 9,165 lbs. milk, 378 lbs. fat in 259 days as 2-yr.-old. Write for price and pedigree.
HYCREST FARMS, Box 386, Leominster, Mass.

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We offer the finest selected bull calves sired by Imp. Petronnerie Dandy, Langwater Royalton and Fairlawn Courteous Prince and out of Strong proven cow families. AR & D.H.I.A. records. Inquiries are invited, so are you.

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Why not be the proud owner of your own herd sire? We have many out of 700, 800, or 900 lb. dams. Breeding stock you are looking for. State your wants, better yet, come and see for yourself. The World's Greatest Production Herd. Prices reasonable.

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DO YOU WANT A HERD SIRE
from a cow family that is tops in type and production?
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Bull Born April, 1955
Dam made 13320-601 Sr3 2x, maternal granddam 15874-829 6 yrs. Sire, McDonald Farms Tarbell, 56 A.R. daughters, son of Dougiaston Lady Augusta. Excellent, 5 A.R. daughters 4 Excellent, 4 A.R. sons. From a great cow family. Also a few choice heifers.
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Voted 3rd most influential sire of the Guernsey breed. Proved one of the greatest production transmitting sires through his sons and grandsons. Our herd is linebred to Foremost Prediction.
Breeding animals of both sexes available.
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Young Stock for Sale
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If you are looking for a young sire with good type and production back of him, write for our sale list. We have youngsters for sale at reasonable prices, out of very good female families and sired by Leeside Dairyman, McDonald Farms Mister Dairyman, Dairyman Favorite, or Dairyman Dividend. You will save money if you buy a well bred youngster and raise it yourself.
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Purebred and grades with outstanding production and type. Purebred bulls that will increase the value of your herds. T.B. and Bang's tested. Service to buyers is free. JEFFERSON CO. GUERNSEY BREEDERS' ASSN., Fort Atkinson, Wis.

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GUERNSEYS
Waukesha County can furnish you with most any kind of Guernseys you desire—grade or pure bred. Lee Burlingham, fieldman, at your service. WAUKESHA COUNTY GUERNSEY BREEDERS' ASS'N, Waukesha, Wisconsin.

A BULL OF YOUR OWN
FOR UNIFORMITY IN YOUR HERD. Select a good typy young bull sired by one of our fine quality sires—Langwater Rocket, Ideal Narcissa's Radiant or Fairlawn K. Princeton. They will add quality to your herd and they are priced right. See them at the farm. Highway #96—between Stillwater and White Bear, Minn.
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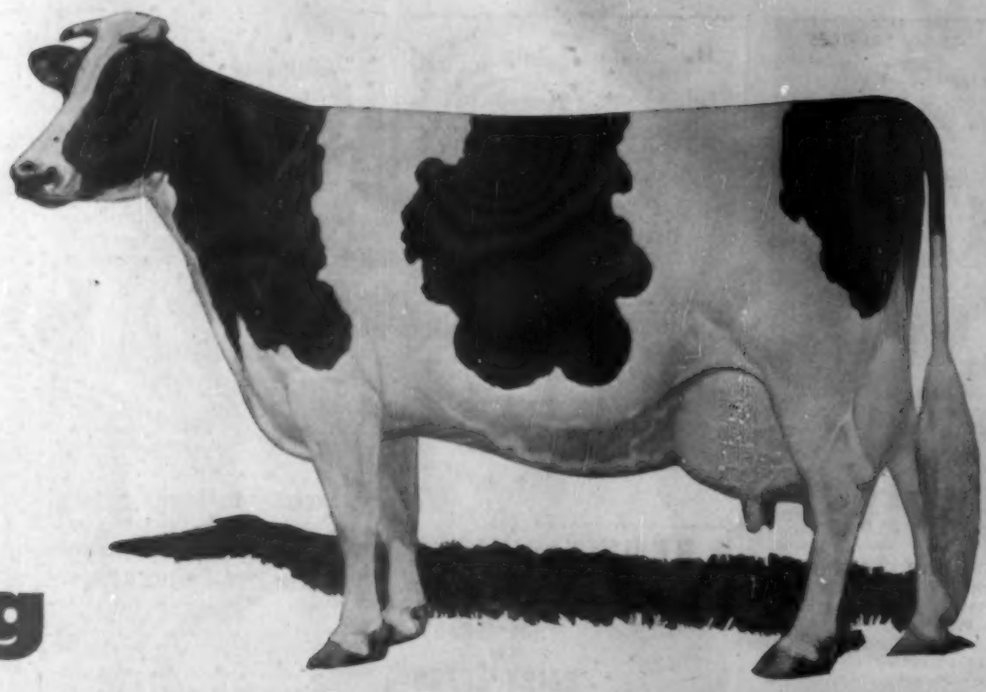

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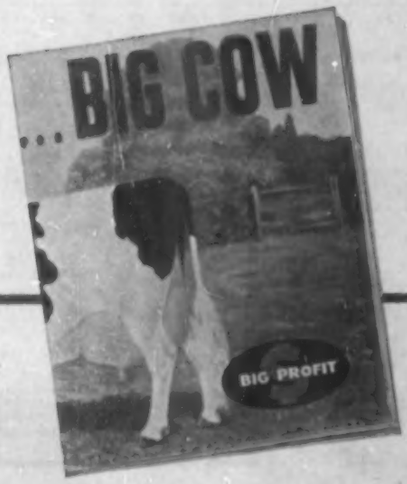

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Burke-bred bulls and semen available. Write for pedigrees and terms.

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Registered and grade Holsteins available from top DHIA accredited herds, many using artificial breeding. Special offering of heifers bred for fall freshening. Free fieldman's services.

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DISPERSAL

CLINTON, WISCONSIN

Farm located 6 miles south of Clinton on Highway 140 at the state line.

Saturday, February 18, 1956

The herd average this last year has averaged 530 lbs. fat, 2x, 14,000 lbs. milk with 2 cows over 800 lbs. fat, 4 cows over 700 lbs. fat, 17 cows over 600 lbs. fat, 30 cows over 500 lbs. fat, all on twice a day milking. 22 daughters of Skokie Prince Perfection, a son of Dunloggin Lochinvar Prince "Excellent" and "Gold Medal Proven Sire". His dam with 17,022 lbs. milk 2x, 4%, 687 lbs. fat.

Bang's tested—Calfhood vaccinated—T.B. tested

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certified, accredited, vaccinated, and H.I.R. tested

8 COWS—
Herd average 541# fat, 14,807# milk, 2X. 3 classified VG, 3 G and 2 unclassified heifers.

4 BRED HEIFERS—
One from 600# dam, one from Gomar, all are choice stock.

4 OPEN HEIFERS—
One from Wise. Leader, one from Gomar, one from Pabst Sir Comet Oliver and VG dam.

2 HEIFER CALVES—
One from Pabst Regal and VG dam, another from Pabst Sir Comet Oliver and high productive dam.

These are all top notch animals that would be welcome in any herd. Cattle can be seen at any time. Guests especially welcome at milking time.

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Don-Mar Seven Premier-Eldonon Herd Sire. An inbred son of a 6.M.P. sire who increased production on 20 prs. by 112# F. on 540 lb. F. dams. His own dam and the next 3 dams are all over 700# F. fx. His calves are "NEAT". Write us about a son. THE ELDONON HERD, Donald W. Johnson, Harvard, Illinois.

EUREKA FARMS offer bulls sired by Carnation Plunderer, also some by a Grandson of Carnation Search Light. Age from now to February 24, 1955. Calves' dams have been in DHIA test since 1917 and are very strong in Carnation breeding since 1933.

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50 HEAD

REGISTERED HOLSTEINS

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Cows with 2x records up to 700 lbs. Several state fair prize winners.

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CLEM HILGENBERG
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¼ mile west, ½ mile south of swimming pool in Charleston, Illinois.

THE LATE JOSEPH HILGENBERG HERD

STOFFELL PERFECTION ACE
Born August 31, 1955

This month we offer this son of Carnation Stylemaster, born August 31, 1955. Carnation Stylemaster is the sire of the Junior and Senior Gets and first prize dairy herd in the leading Southern shows this fall.

This calf is dammed by Payne Koradyke Ollie, who as a two year old made 535.9 lbs. fat and 19,416 lbs. milk. If you will note from the picture, he is a splendid type individual and would make someone a good bull calf to show this coming fall. He has inheritance to transmit profitable production and pleasing type and will grow into a valuable herd sire. He has a full sister in our herd who made over 600 lbs. fat as a two year old on 2X milking. For price and pedigree write:

STOFFELL'S MILK FARM
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"ART"istic Calves

How would you like a son out of "Art", from one of our Very good cows with records to 728 fat, 2X, HIR?

"Art", with 3 Excellents in his official breakdown was Grand Champion at the National Regional Show at Memph's. His Junior Get, (all calves), was 1st prize at the Missouri State Fair.

His first 6 daughters to be classified, all as Junior two year olds, averaged 83.3%. He is by a Very Good, Silver Medal Type Sire and out of a Very Good, 781 lb., 2X dam with over 100,000 lbs. of milk so far in her life.

For pedigrees, prices and other information on a son of "Art",

Write to

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CARNATION NANCY LASSIE NAN

WE OFFER A BEAUTIFUL SON OF THIS OUTSTANDING HEIFER

CARNATION NANCY LASSIE NAN is on test making an outstanding two-year-old record. She has produced 9,072 pounds of milk and 377 pounds of fat in the first 224 days. She is a large heifer of very good type with an outstanding udder. Her sire, Carnation Ensign, is a Reserve All-American show bull that has done a fine job as a sire. Her dam is a 1097 pound daughter of Governor of Carnation.

Her son, Ear Tag B-224, was born March 19, 1955. He is sired by Hallrose Progressor who is "Excellent" in type and a Gold Medal proven sire.

There will not be many more chances to buy sons of Progressor as he is now past 15 years of age and is out of service.

Write or wire for pedigree and price on Ear Tag B-224.

Address:
CARNATION MILK FARMS
Dept. #73
Carnation, Washington

Little chance for major increase in farm exports

A recent international farm conference in Rome took a long look at the world market and decided the only place where there can be any significant increase in the farm import market is in the industrialized countries of Western Europe and Japan. And even in these countries it appears as if no sudden, major increase in imports is in prospect.

"All in all, and having regard to considerable differences among commodities, it does not seem possible to take an optimistic view in regard to opening up large new commercial import outlets for agricultural products in the years immediately ahead," the report of the conference stated.

"On the contrary, the position is more likely to be one of strong competition for outlets approximately the same size as, or smaller than, those of recent years . . ."

The prospects for expanding the commercial market for surplus farm products in the under-developed countries are not good at the present time, delegates to the International Federation of Agricultural Producers (I.F.A.P.) said. In almost all of these countries, it was stated, the main emphasis is placed on the imports of capital goods, on machinery, implements, etc., designed to assist an expansion of production both in the industry and agriculture of the countries concerned.

The delegates considered the prospects of bigger agricultural imports in the Soviet sphere, and felt it was difficult to say exactly how good or bad the chances would be. "This is because," I.F.A.P. said, "the future in this respect depends more on important political decisions—on both sides of the Iron Curtain—than it does on economic facts."

The Soviet needs imported fats and oils, meats, and in most years, cereals, the delegates said. On the other hand, Russia has only limited goods to exchange for its needs. "This fact, plus the political uncertainties cited, would seem at least to indicate that producers in exporting countries in the free world should not count heavily on future Soviet outlets for surplus production," the conference said.

The conference felt the world's three major agricultural importers (the United Kingdom, West Germany and Japan) will continue to need large quantities of imported food and fibre. Of these, it was stated, the greatest potentiality for expansion seems to exist in Japan. However, this market expansion depends largely on Japan's ability to earn foreign currency through her industrial exports.

It was felt the United Kingdom will continue to remain the world's biggest importer of agricultural products.

The delegates said the prospects of expanding substantially the level of farm imports in West Germany depend to a large extent on the level of agricultural protection in that country.

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2,400,000 units single-dose disposable syringe.

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304 bushels of corn per acre

Lamar Ratliff, teen-age farm boy, made hybrid corn history last fall when he produced a record-shattering yield of 304.38 bushels on an acre of ground near Baldwyn, Mississippi.

Lamar's field was measured and the yield weighed and checked by W. T. Smith, county agent, and James W. Archer, assistant county agent of Prentiss County. The measured acre produced 19,776 pounds of ear corn at 13.93 per cent moisture. It shelled out 84.5 per cent, for a yield of 304.38 bushels of Number 2 corn.

Heavy plant population, high fertility, and exceptional care in preparing the field contributed to the new world record yield. The ground was plowed several times during the winter, and subsoiled. Fifty loads of manure were applied, with 1,000 pounds of 14-14-14 fertilizer and 500 pounds of ammonium nitrate. Corn was planted with a one-row planter, in 30-inch rows, and thinned to a stand estimated at 25,850 plants. The crop was cultivated twice. It was not irrigated.

Lamar's measured acre, on the farm of his father, Paul Ratliff, has now produced a grand total of 903 bushels of corn in the last four years, for a four-year average of more than 225 bushels. In 1952 it made 214 bushels; 1953, 167 bushels; 1954, 218 bushels; and last year—the amazing new record of over 304 bushels.

LAMAR RATLIFF showing a portion of his record corn crop.

VETERINARY COLUMN

E. A. WOELFFER, D.V.M.

Shipping fever

Many dairy and beef cattle are lost each year from shipping fever. The disease may occur any time, but is most prevalent during the winter and spring months.

The infection carries a rise in temperature and pneumonia often develops. The disease may be present in one or two individuals, but more often a number of animals in the herd show symptoms.

Usually outbreaks occur following the introduction of outside animals that have been in transit or have passed through stockyards or community sales. These animals apparently are carriers of the infection.

Cause . . .

The primary cause of the disease is unknown, but a virus has been suspected. Since an organism known as *Pasteurella boviseptica* is commonly isolated from tissues of affected animals, the disease is frequently referred to as pasteurelloses.

The pasteurella germ is considered a secondary invader rather than the primary agent. This is bourne out by the fact that scientists have not been able to reproduce the disease experimentally with this organism.

Traveling long distances apparently tires animals. This lowers their resistance to disease. Additional factors are crowding, poor ventilation, rapid temperature changes, and irregular feeding and watering.

Early symptoms of shipping fever are depression, loss of appetite, rough coat, and fever. The temperature may go as high as 107 degrees. Breathing is usually rapid and a cough and nasal discharge may be present.

Sometimes the nasal discharge contains streaks or flakes of pus. Pneumonia often develops and when an animal dies, it is because the bronchials in the lungs are involved or there is a general septicemia.

Prevention and treatment . . .

All sick animals should be immediately separated or isolated from the rest of the herd and given the benefits of good feeding and the best possible protection from bad weather.

Response to treatment varies and it is for this reason veterinarians must rely upon a wide range of therapeutic agents. Usually the sulfonamids and/or antibiotics give the best results.

Relatively large doses of antiserums are often used in developing an immediate passive immunity. Bacterins are also used routinely for building resistance and sometimes for treatment purposes.

Bacterins should be administered at least two weeks before animals are expected to be exposed or moved.

The effectiveness of these biological products are difficult to evaluate. They appear helpful in some animals, not in others. Some veterinarians are staunch advocates of their use; others question their value.

SCABBY SKIN

I have a Holstein cow that has for a long time had scabby pustules on her shoulders. They occur only on the white portion of the skin. I have painted them with iodine but they persist.

Now, within the past month or so, similar skin eruptions have occurred on several other cows, mostly on the rumps but also to a lesser degree on other parts of the bodies such as the necks and backs of udders.

The pustules are mostly small, about three-sixteenths to one-fourth of an inch in diameter. Sometimes they occur close together to form larger areas. When the scab is picked off, a reddish pock is uncovered.

These pocks apparently do not irritate the cows very much but they must be caused by something.

The cows have had good pasture and I feed trace mineral salt. Also have offered them bone meal free-choice but they don't eat much of it.

If you can offer any suggestions, I'd appreciate it very much.

Woodstock, Illinois. J. F.

Without an examination, it is difficult to diagnose the condition of the scabby pustules on your cows. Most likely it is a type of scabies, perhaps due to chorioptic mites.

Other causes of similar lesions are certain types of ringworm, dermatitis, and lice. We suggest you have your veterinarian make an examination, and perhaps take skin scrapings, to determine the exact cause of the condition.

SWELLINGS ON NECK

I had a cow freshen about 10 days ago. Soon after freshening we noticed swellings on both sides of her neck and also in her left flank. She seems to feed very well, but is way down in production.

What is her trouble and what is the remedy?

Troy, Kansas. E. J. J.

Without more information, we cannot make a diagnosis of the condition existing in your cow. If the swelling on the neck is just in front of the shoulder and the swelling in the flank is above the stifle joint, it is possible the cow is suffering from leukemia.

If leukemia is present, we would suspect swellings to be present on the opposite side also, and in other locations where superficial lymph glands can be felt.

We suggest you have your veterinarian examine the cow so that a proper diagnosis may be made. If leukemia is established, there is no cure; the cow will get progressively worse and eventually die.

If a veterinarian is not available, write us more specifically as to the size and location of the swellings, and describe other symptoms.

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America's Finest 4-Plow . . . 4-Row All-New Tractor

Powr-Range Transmission

From a slow creep to top transport speed you have a continuous range of speed with a Case "400" Tractor. It's not merely that the Powr-Range Transmission has eight gear speeds forward and two reverse—it's the way the speeds go in evenly-spaced steps, with never a gap between. And it's all done with one foot clutch, one shift lever, and a natural, progressive shift pattern.

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Besides front-mounted cultivators . . . such as the 4-row "drive-in" model shown below . . . there's a full line of Eagle Hitch rear-mounted implements in 4-plow or equivalent size. Eagle Hitch is more than a quick hook-up from tractor seat—it "pulls from the shoulder" . . . provides automatic stabilization of plowing depth . . . assists traction according to draft. For the full story of the Case "400" . . . America's finest tractor in the 50 h.p. class . . . see your Case dealer.

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Refreshingly NEW 3-Plow Tractor

Be ready for a breath-taking surprise when your Case dealer unveils the new Case "300" Tractor. Look for clean-cut lines . . . eye-catching color . . . countless new conveniences in driving, hitching, servicing. When you take the wheel, prepare for performance you never dreamed of finding in a tractor of 3-plow size . . . flexibility never before built into any farm tractor. Find out about the easy, sensible Case Payment Plan that can be fitted to your income. Write for folder on the 4-plow Case "400" . . . keep in touch with your Case dealer about the 3-plow Case "300." J. I. Case Co., Dept. A-396, Racine, Wis.

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Every 10 Minutes!

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$5 DOWN

Surge Milker Unit

...and up to 24 months to pay!

You can buy any kind of Surge Cow-Milking Equipment on *EASY TERMS* . . . a low down payment and up to 24 months to pay the balance. That covers Pipelines, Parlor Stalls . . . everything. You can afford to own a Surge!

Every ten minutes, a shining, bright new Surge Milker goes into somebody's barn somewhere.

We are sure that is because so many well-experienced Surge users have told their neighbors that Genuine Surge TUG & PULL delivers exceptionally good, safe and fast cow milking.

They have told them that Organized Surge Service makes the Surge keep right on being a good cow milker.

If you should decide that a Surge Milker would save you some work and some time and be better for your cows, just remember that you can buy one of these bright new Surge Units for FIVE DOLLARS DOWN and up to 24 months to pay the balance.

Right is reserved to withdraw this proposition at any time.

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Surge

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